

## Week 2 MCQs

1. What are the two Latin word roots of 'conservation'?
  - A. 'conservare' and 'servare'
  - B. 'con' and 'servus'
  - C. 'conservare' and 'ervare'
  - D. 'con' and 'servare' (Correct)**
2. What does 'con' mean in Latin?
  - A. To protect
  - B. To keep
  - C. Together (Correct)**
  - D. To preserve
3. What does 'servare' mean in Latin?
  - A. To grow
  - B. Together
  - C. To keep (Correct)**
  - D. To restore
4. What are the three components of conservation mentioned?
  - A. Protection, restoration, and sustainability
  - B. Preservation, protection, and restoration (Correct)**
  - C. Preservation, protection, and consumption
  - D. Restoration, consumption, and sustainability
5. What is the Anthropocene?
  - A. A proposed geological epoch (Correct)**
  - B. A type of ecosystem
  - C. A method of conservation
  - D. A Latin word
6. What marks the beginning of the Anthropocene?
  - A. The Industrial Revolution
  - B. The invention of agriculture
  - C. Significant human impact on Earth (Correct)**
  - D. The writing of Malthus's essay
7. What is one major human impact on the environment mentioned?

- A. Habitat creation
- B. Ozone replenishment
- C. Overconsumption (Correct)**
- D. Sustainable development

8. What is overconsumption?

- A. Removing organisms at a rate less than population growth
- B. Conserving natural resources
- C. Removing organisms at a rate greater than population growth (Correct)**
- D. Using resources sustainably

9. What is habitat destruction?

- A. The creation of new habitats
- B. The protection of habitats
- C. The natural home of an organism
- D. The damage or destruction of an organism's home (Correct)**

10. What is desertification?

- A. Turning lands into forests
- B. The growth of deserts
- C. Overconsumption of soil
- D. Turning lands into deserts (Correct)**

11. What is a major factor in desertification?

- A. Reforestation
- B. Overgrazing (Correct)**
- C. Undergrazing
- D. Sustainable agriculture

12. What is ocean acidification?

- A. Increasing the pH of oceans
- B. Decreasing the pH of oceans (Correct)**
- C. Increasing the temperature of oceans
- D. Decreasing the salinity of oceans

13. What is a major cause of ocean acidification?

- A. Release of oxygen
- B. Release of carbon dioxide (Correct)**
- C. Release of nitrogen

D. Release of hydrogen

14. What is ozone depletion caused by?

A. Increased oxygen levels

**B. Use of chlorofluorocarbons (Correct)**

C. Increased carbon dioxide

D. Sustainable practices

15. What does ozone protect life from?

A. Carbon dioxide

B. Greenhouse gases

**C. UV rays of the Sun (Correct)**

D. Ocean acidification

16. What are biogeochemical cycles?

A. Cycles of money

**B. Cycles through which nutrients move (Correct)**

C. Cycles of human population growth

D. Cycles of technological advancement

17. What is eutrophication?

A. Reduction of nutrients in water bodies

**B. Adding nutrients to water bodies (Correct)**

C. Cleaning of water bodies

D. Decreasing algae growth in water bodies

18. What is one impact of eutrophication?

A. Increased oxygen levels in water

**B. Rapid growth of plant material in water (Correct)**

C. Decreased algae growth

D. Improved water quality

19. What is a major cause of loss of biodiversity?

A. Sustainable practices

B. Habitat creation

**C. Rampant poaching (Correct)**

D. Ozone replenishment

20. What is a major causal factor of climate change?

- A. Release of oxygen
- B. Release of greenhouse gases (Correct)**
- C. Sustainable agriculture
- D. Ozone replenishment

21. What is a greenhouse gas mentioned?

- A. Oxygen
- B. Nitrogen
- C. Carbon dioxide (Correct)**
- D. Hydrogen

22. What does the formula  $I = P \times A \times T$  represent?

- A. The impact of human activity on the environment (Correct)**
- B. The growth of human population
- C. The level of affluence in a society
- D. The level of technological advancement

23. In  $I = P \times A \times T$ , what does 'P' represent?

- A. Affluence
- B. Technology
- C. Population (Correct)**
- D. Impact

24. In  $I = P \times A \times T$ , what does 'A' represent?

- A. Affluence (Correct)**
- B. Technology
- C. Population
- D. Impact

25. In  $I = P \times A \times T$ , what does 'T' represent?

- A. Affluence
- B. Technology (Correct)**
- C. Population
- D. Impact

26. What is affluence generally measured through?

- A. Population size
- B. Technological advancement
- C. GDP per capita (Correct)**
- D. Amount of rainfall

27. What is one example of an invasive species?
- A. Elephant
  - B. Tiger
  - C. Lantana camara (Correct)**
  - D. Rhizobium
28. What is coral bleaching?
- A. The growth of corals
  - B. The death of corals (Correct)**
  - C. The protection of corals
  - D. The creation of coral reefs
29. What is traditionally taken as the beginning of the Anthropocene?
- A. The Industrial Revolution
  - B. The invention of writing
  - C. The Trinity explosion in 1945 (Correct)**
  - D. The first use of fire
30. What is one of the earliest works on human population growth?
- A. The Origin of Species
  - B. Silent Spring
  - C. An Essay on the Principle of Population (Correct)**
  - D. The Population Bomb
31. Who wrote 'An Essay on the Principle of Population'?
- A. Charles Darwin
  - B. Rachel Carson
  - C. Thomas Robert Malthus (Correct)**
  - D. Paul Ehrlich
32. According to Malthus, how does human population grow?
- A. Arithmetic progression
  - B. Geometric progression (Correct)**
  - C. Linear progression
  - D. Exponential decay
33. According to Malthus, how does food supply increase?
- A. Geometric progression

**B. Arithmetic progression (Correct)**

C. Exponential decay

D. Logistic growth

34. What are Malthus's 'positive checks'?

A. Moral restraint

B. Late marriage

**C. Famine and disease (Correct)**

D. Celibacy

35. What are Malthus's 'preventive checks'?

A. Famine and disease

**B. Moral restraint (Correct)**

C. War and pestilence

D. Natural calamities

36. What is the doubling time in Malthus's theory?

A. 50 years

B. 100 years

**C. 25 years (Correct)**

D. 10 years

37. What is the formula for exponential population growth?

**A.  $P[t] = P[0] \times e^{(kt)}$  (Correct)**

B.  $P[t] = P[0] + kt$

C.  $P[t] = P[0] \times 2^{kt}$

D.  $P[t] = P[0] / e^{(kt)}$

38. In the exponential growth formula, what does 'k' represent?

A. Initial population

B. Doubling time

**C. A positive constant (Correct)**

D. Carrying capacity

39. What is the formula for doubling time ( $t_d$ )?

A.  $t_d = k \times \log 2$

**B.  $t_d = \log 2 / k$  (Correct)**

C.  $t_d = 2 / k$

D.  $t_d = k / 2$

40. What is a criticism of Malthus's theory?

- A. Population growth is always exponential
- B. Agricultural growth is always arithmetic
- C. Doubling time is constant
- D. Population growth is not always exponential and doubling time is not constant (Correct)**

41. What is carrying capacity?

- A. The minimum number of individuals an environment can support
- B. The maximum number of individuals an environment can support (Correct)**
- C. The average number of individuals in an environment
- D. The number of predators in an environment

42. What type of growth does the logistic growth equation describe?

- A. Exponential growth only
- B. Arithmetic growth only
- C. S-shaped growth (Correct)**
- D. Linear growth only

43. What is the formula for logistic growth?

- A.  $dN/dt = rN(K-N)/K$  (Correct)**
- B.  $dN/dt = rN$
- C.  $dN/dt = rN + K$
- D.  $dN/dt = r(K-N)$

44. In the logistic growth equation, what does 'K' represent?

- A. Initial population
- B. Growth rate
- C. Carrying capacity (Correct)**
- D. Time

45. What is one factor that affects the net reproductive rate?

- A. Weather
- B. Availability of food (Correct)**
- C. Temperature
- D. Rainfall

46. What is net reproductive rate?

- A. Number of offspring per individual

**B. Number of female offspring per female per generation (Correct)**

C. Number of male offspring per male per generation

D. Number of deaths per generation

47. What does Gandhi say about the world's resources?

A. There are unlimited resources

**B. There are enough resources for everyone's needs, not everyone's greed (Correct)**

C. Resources are only enough for the wealthy

D. Resources should be equally divided

48. What is sustainable development?

**A. Meeting present needs without compromising future needs (Correct)**

B. Meeting greed without compromising needs

C. Unlimited economic growth

D. Environmental protection only

49. What are the three pillars of sustainability?

**A. Environmental, economic, and social (Correct)**

B. Political, economic, and environmental

C. Social, cultural, and economic

D. Environmental, technological, and social

50. What are ecosystem services?

A. Services provided by humans

**B. Services provided by ecosystems (Correct)**

C. Economic services only

D. Social services only

51. What is an example of an ecosystem service?

A. Pollution

B. Deforestation

**C. Provisioning of goods like wood (Correct)**

D. Habitat destruction

52. What is green chemistry?

A. Manufacturing goods with high pollution

**B. Manufacturing goods with low pollution (Correct)**

C. Using only natural resources

D. Ignoring environmental impact



53. What is a topic discussed in relation to environmental sustainability?

- A. Population growth only
- B. Economic growth only
- C. Quality of air and water (Correct)**
- D. Technological advancement only

54. According to the text, what is the relationship between population and technology in the impact formula?

- A. Technology is independent of population
- B. Population is independent of technology
- C. Technology is somewhat dependent on population (Correct)**
- D. There is no relationship between population and technology

55. What is a factor that affects the rate of agricultural production increase?

- A. Only land availability
- B. Only technology
- C. Both land availability and technology (Correct)**
- D. Neither land availability nor technology

56. What is a criticism of Malthus's theory regarding agricultural growth?

- A. It assumes exponential agricultural growth
- B. It assumes arithmetic agricultural growth
- C. It ignores technological advancements
- D. Both B and C (Correct)**

57. What is a criticism of Malthus's theory regarding positive checks?

- A. They only occur in high-population areas
- B. They only occur in low-population areas
- C. They never occur
- D. They occur regardless of population density (Correct)**

58. What is demographic transition?

- A. A shift in population growth patterns (Correct)**
- B. A type of ecosystem
- C. A method of conservation
- D. A type of economic system

59. What is one stage in demographic transition characterized by?

- A. Low birth rate and high death rate

- B. High birth rate and low death rate
- C. Low birth rate and low death rate
- D. High birth rate and high death rate (Correct)**

60. What is one factor that influences the birth rate in demographic transition?

- A. Access to healthcare
- B. Access to contraceptives
- C. Access to education
- D. All of the above (Correct)**

61. What is a silver lining mentioned regarding population growth?

- A. The rate of population growth is increasing
- B. The rate of population growth has peaked and is decreasing (Correct)**
- C. The population is stabilizing at 5 billion
- D. The population is stabilizing at 2 billion

62. What is a trend observed regarding fertility rates?

- A. Fertility rates are increasing
- B. Fertility rates are stable
- C. Fertility rates are decreasing (Correct)**
- D. Fertility rates are unpredictable

63. What is one example of a change in the population pyramid mentioned?

- A. The base is getting wider
- B. The base is getting narrower (Correct)**
- C. The pyramid is becoming more irregular
- D. The pyramid is becoming more stable

64. What is a factor that influences the death rate in demographic transition?

- A. Access to healthcare
- B. Access to education
- C. Access to technology
- D. All of the above (Correct)**

65. What is one trend observed in the use of fertilisers?

- A. Fertiliser use is decreasing globally
- B. Fertiliser use is stable globally
- C. Fertiliser use is increasing globally (Correct)**
- D. Fertiliser use is unpredictable globally

66. What is a trend observed in the use of pesticides?

- A. Pesticide use is decreasing globally
- B. Pesticide use is stable globally
- C. Pesticide use is increasing globally (Correct)**
- D. Pesticide use is unpredictable globally

67. What is a trend observed in the amount of water used for agriculture?

- A. Water use for agriculture is decreasing globally
- B. Water use for agriculture is stable globally
- C. Water use for agriculture is increasing globally (Correct)**
- D. Water use for agriculture is unpredictable globally

68. What is a trend observed in the land area needed to produce the same amount of food?

- A. It is increasing
- B. It is stable
- C. It is decreasing (Correct)**
- D. It is unpredictable

69. What is one way to increase food production without increasing land use?

- A. Decrease fertiliser use
- B. Decrease pesticide use
- C. Increase crop productivity (Correct)**
- D. Decrease irrigation

70. What is a criticism of Malthus's theory concerning the relationship between population and food supply?

- A. Population is linked to food only
- B. Population is linked to total wealth (Correct)**
- C. Population is linked to technology only
- D. Population is linked to rainfall only

71. What is a factor mentioned that leads to a decrease in the death rate?

- A. Lack of access to healthcare
- B. Lack of access to technology
- C. Improved access to healthcare (Correct)**
- D. Increased poverty

72. What is a factor mentioned that leads to a decrease in the birth rate?

- A. Lack of access to education

**B. Improved access to education (Correct)**

C. Increased poverty

D. Lack of access to contraceptives

73. What is one reason why couples in earlier times had more children?

A. High survival rates of children

**B. Low survival rates of children (Correct)**

C. Easy access to childcare

D. Abundance of resources

74. What is one factor that contributes to a stable population in the fourth stage of demographic transition?

A. High birth rate and high death rate

B. High birth rate and low death rate

C. Low birth rate and high death rate

**D. Low birth rate and low death rate (Correct)**

75. What is one method mentioned for reducing birth rates besides moral restraint?

A. Increasing poverty

B. Decreasing access to healthcare

**C. Using contraceptives (Correct)**

D. Reducing access to education

76. What is one example of a positive check that might occur even in low-population countries?

**A. Earthquake (Correct)**

B. Famine

C. Disease

D. War

77. What is one reason why understanding wildlife population ecology is crucial for conservation?

A. It helps predict weather patterns

B. It helps predict economic trends

**C. It helps make informed conservation decisions (Correct)**

D. It helps predict technological advancements

78. What is one characteristic of exponential growth?

A. Constant rate of increase

B. Decreasing rate of increase

**C. Increasing rate of increase (Correct)**

D. No rate of increase

79. What is the term for the maximum number of individuals an environment can sustain?

**A. Carrying capacity (Correct)**

B. Population density

C. Net reproductive rate

D. Doubling time

80. What is a problem of statics in population ecology?

A. How populations change with time

**B. What determines average population values (Correct)**

C. How to increase carrying capacity

D. How to predict future population growth

81. What is a problem of dynamics in population ecology?

A. What determines average population values

**B. How populations change with time (Correct)**

C. How to increase carrying capacity

D. How to predict future population growth

82. What is one factor that influences the impact of humans on the environment, besides population and technology?

A. Rainfall

B. Temperature

**C. Affluence (Correct)**

D. Soil type

83. What is one way that modern technology can affect the impact formula?

A. Increase 'P'

B. Increase 'A'

**C. Increase or decrease 'I' (Correct)**

D. Decrease 'T'

84. What is one example of a preventive check according to Malthus?

A. War

B. Famine

**C. Moral restraint (Correct)**

D. Disease

85. What is one example of a positive check according to Malthus?

- A. Moral restraint
- B. Late marriage
- C. Famine (Correct)**
- D. Celibacy

86. What is one way humans have increased carrying capacity?

- A. Reducing technology
- B. Decreasing crop productivity
- C. Bringing more land under cultivation (Correct)**
- D. Ignoring environmental concerns

87. What is a potential outcome of unsustainable development?

- A. Increased biodiversity
- B. Improved ecosystem services
- C. Overconsumption (Correct)**
- D. Sustainable resource use

88. What is one way to achieve environmental sustainability?

- A. Ignoring pollution
- B. Promoting deforestation
- C. Using green engineering (Correct)**
- D. Overusing resources

89. What is one example of economic sustainability?

- A. Depleting natural resources
- B. Ignoring social needs
- C. Promoting sustainable businesses (Correct)**
- D. Promoting overconsumption

90. What is one example of social sustainability?

- A. Ignoring environmental concerns
- B. Promoting social equity (Correct)**
- C. Exploiting labor
- D. Promoting unsustainable businesses

91. What is one consequence of unsustainable development mentioned in the text?

- A. Increased biodiversity
- B. Improved air quality
- C. Ocean acidification (Correct)**
- D. Sustainable resource management

92. What is one consequence of habitat destruction?
- A. Increased biodiversity
  - B. Improved ecosystem health
  - C. Species extinction (Correct)**
  - D. Sustainable development
93. What is one consequence of overconsumption of water resources?
- A. Improved water quality
  - B. Desertification (Correct)**
  - C. Increased biodiversity
  - D. Sustainable water management
94. What is one example of an unsustainable practice mentioned in the text?
- A. Recycling plastics
  - B. Using green chemistry
  - C. Overgrazing (Correct)**
  - D. Sustainable agriculture
95. What is one way to reduce the impact of human activities on the environment?
- A. Increase population growth
  - B. Increase consumption
  - C. Increase technological advancement without considering sustainability
  - D. Promote sustainable development (Correct)**
96. What does the text suggest is the overriding priority in sustainable development?
- A. Meeting the needs of the wealthy
  - B. Meeting the needs of the present (Correct)**
  - C. Meeting the needs of future generations only
  - D. Ignoring the needs of the poor
97. What concept is emphasized in the definition of sustainable development regarding resource use?
- A. Unlimited resource availability
  - B. The concept of limitations (Correct)**
  - C. Ignoring future generations' needs
  - D. Meeting only present needs
98. What is one factor limiting the ability of the environment to meet present and future needs?
- A. Unlimited resources

**B. The state of technology and social organization (Correct)**

C. Ignoring environmental concerns

D. Promoting overconsumption

99. Placeholder: Generation failed/incomplete for Week 2 - Q99

**A. Failed A (Correct)**

B. Failed B

C. Failed C

D. Failed D

100. Placeholder: Generation failed/incomplete for Week 2 - Q100

**A. Failed A (Correct)**

B. Failed B

C. Failed C

D. Failed D