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ECOLOGY AND ENVIRONMENT

1. Which of the following is correct
1) India, a mega diversity country with only 2.4 percent of the land area, accounts for 7-8 per cent of the recorded species of the world
2) In terms of species richness, India ranks seventh in mammals, ninth in birds and fifth in reptiles.
a) 1 b) 2 c) Both d) None

2. Which of the following are correct
1) India also has 23.39 per cent of its geographical area under forest and tree cover
2) Of the 34 globally identified biodiversity hotspots, India harbors four hotspots, i.e., Himalaya, Indo-Burma, Western Ghats and Sri Lanka and Sundaland.
a) 1 b) Both c) 2 d) None

3. Which of the following are incorrect
1) In terms of plant diversity India ranks tenth in the world and fourth in Asia
2) India represents nearly 15 per cent of the world's known floral diversity.
a) 1 b) 2 c) Both d) None

4. Which of the following are correct
1) Cartagena Protocol is a regulation on transboundary movement on the biosafety of handling and use of living modified organisms (LMOs)
2) Stockholm Convention is to Protect human health and the Persistent Organic environment from persistent organic substances
a) 1 b) 2 c) None d) Both

5. Which of the following are correct

1) India stands seventh in the world in terms of contribution of species to agriculture and animal husbandry.

2) The National Gene Bank at NBPGR is primarily responsible for conservation of unique accessions on long-term basis form of seeds.

a) 1 b) Both c) None d) 2

6. Which of the following are correct

1) India ranks third in buffaloes, second in cattle and goats.

2) The National Bureau of Animal Genetic Resources (NBAGR) undertakes suitable programmes for identification, evaluation of animal genetic resources

a) 1 b) 2 c) Both d) None

7. Which of the following are correct

1) India is endowed with vast inland and marine bio resources.

2) It is the third largest producer of fish in the world and second largest producer of inland fish.

a) 1 b) 2 c) Both d) None

8. Which of the following is incorrect

1) Delhi is the first state to follow the State action plan on Climate change

2) State of Forests Report 2009 Latest State of Forest Report released, shows continued rise in India's forest cover.

a) None b) Both c) 1 d) 2

9. Which of the following are correct

1) Alpha diversity (within-community diversity) refers to the rate of replacement of species along a gradient of habitats or communities?

2) Gamma diversity (overall) refers to the diversity of the habitats over the total landscape or geographical area.

a) 1 b) 2 c) Both d) None

10. Which of the following are incorrect

1) Forestry is the second largest land use in India after agriculture, covering approximately 23.57 percent (recorded forest area) of the total geographical area

2) It contribution to the Gross Domestic Product is maximum

a) 1 b) 2 c) Both d) None

11. What is the harm from the depletion of Earth's ozone layer?

a) The average temperature of earth's surface will increase gradually

b) The oxygen content of the atmosphere will decrease

c) Increased amount of Ultra violet radiation will reach earth's surface

d.) Sea levels will rise as the polar ice caps will gradually melt

12. Acid rain is formed due to contribution from the following pair of gases

a). Methane and ozone b) Oxygen and nitrous oxide

c) Methane and sulpher dioxide d) Carbon dioxide and sulpher dioxide

13. Which of the following is a prime health risks associated with greater UV radiation through the atmosphere due to depletion of stratospheric ozone?

a) Damage to digestive system b) Increased liver cancer

c) Neurological disorder d) Increased skin cancer

14. The most serious environmental effect posed by hazardous wastes is

a) Air pollution. b) Contamination of groundwater.

c) Increased use of land for landfills. d) Destruction of habitat.

15. The concentration of which gas is highest in our environment?

a) Oxygen b) Hydrogen c) Nitrogen d) Carbon dioxide

16. Which of the following is not as a consequence of global warming?

a) rising sea level .b) increased agricultural productivity worldwide

c) worsening health effects d) increased storm frequency and intensity

17. Which of the following is not a primary contributor to the greenhouse effect?

a) carbon dioxide
b) carbon monoxide
c) chlorofluorocarbons
d) methane gas

18. The increase in the concentration of CO2 in our environment in last fifty years; since 1960 is about

a) 20% b) 10% c) 14% d) 6%

19. The depletion in the Ozone layer is caused by

a) nitrous oxide.
b) carbon dioxide.
c) chlorofluorocarbons.
d) methane.

20. A major in-stream use of water is for

a) producing hydroelectric power.
b) dissolving industrial wastes.
c) agricultural irrigation .
d) domestic use.

21. Which of the following are the example of Municipal and industrial discharge pipes?

a) Nonpoint sources of pollution.
b) Violations of the Clean Water Act.
c) Point sources of pollution.
d) Irrigation.

22. The presence of high coliform counts in water indicate

a) Contamination by human wastes.
b) Phosphorus contamination.
c) Decreased biological oxygen demand.
d) Hydrocarbon contamination.

23. How the biological oxygen demand gets affected with the increased presence of organic matter in water?

a) The oxygen demand increases
b) the oxygen demand decreases
c) The oxygen demand remains unchanged
d.) None of the Above

24. Which of the following is not a major source of groundwater contamination?

a) Agricultural products
b) landfills
c) Septic tanks
d) underground storage tanks

e) All of the above are major sources of groundwater contamination

25. Which of the following is not considered as part of water use planning?

a) waste water treatment b) water diversion projects
c) storm sewer drainage d) salinization
e) Water use planning considers all of the above issues

26. The stage in which the biological processes is used to purify water in a wastewater treatment plants is called

a) secondary sewage treatment b) primary sewage treatment
c) Wastewater reduction d) biochemical reduction

27. Groundwater mining in coastal areas can result into

a) increase in the salinity of groundwater.
b) decrease in the toxicity of groundwater.
c) decrease in the salinity of groundwater.
d) increase in the water table.

28. Which of the following is not an important characteristic of the Green Revolution?

a) mechanized agriculture b) hybrid seeds
c) slash and burn d) monoculture

29. The three primary soil macronutrients are

a) carbon, oxygen, and water. b) copper, cadmium, and carbon.
c) potassium, phosphorus, and nitrogen. d) boron, zinc, and manganese.

30. Which of the following are negative effects on the soil and water due to conventional, mechanized farming practices?

a) soil compaction b) reduction in soil organic matter

c) soil erosion d) leaching of pesticides and fertilizers into the groundwater
e) all of the above

31.The head quarters of international whaling commission
a) newyork b) Kyoto c) perth d) Cambridge

32) Increased defoliation in plants is caused by
a) ozone depletion b) acid rains
c) global warming d) ground pollution

33) The Himalayan ibex is a type of
a) goat b) deer c) ass d) cattle

34) For providing environmental information to decision makers, policy planners, scientists and engineers, research workers, etc. all over the country., ENVIS was established in the year
a)1979 b)1980 c)1981 d)1982

35) which of the following is not a mission listed under NATIONAL ACTION PLAN ON CILMATE CHANGE(NAPCC)
a) national mission on sustainable development
b) national mission on enhanced energy efficiency
c) national mission on sustainable Himalayan ecosystem
d) national mission on strategic knowledge for climate change

36) The only conference of parties held in India
a) cop-12 b) cop-13 c) c0p-14 d) c0p-15

37) who wrote the book "hotspots:revisited"
a) walter rosen b) Norman myers
c) russel mittermeier d) Rachel Carson

38) The state bird of Uttarakhand

a) monal b) Indian bustard c) Indian roller d) sarus crane

39) The year declared by UN as International Year of Forests

a) 2011 b) 2010 c) 2009 d) 2008

40) National biodiversity authority is located a

a) Thiruvananthapuram b) chennai c) Imphal d) shimla

41) The greenhouse gas with high heat trapping capability

a) carbondioxide b) nitrous oxide

c) sulphur hexa fluoride d) methane

42) Consider the following statements

1) ocean acidification due to global warming activates coral growth

2) global warming may result in increased agricultural yield in certain parts of the earth

The correct statements

a) only 1 b) only 2 c) both 1 and 2 d) neither 1 nor 2

43) The primordial earth's atmosphere was

a) reducing b) with free oxygen c) cooler d) all of these

44) The number of biosphere reserves in india recognized as a part of world network of biospheres

a) 4 b) 5 c) 6 d) 7

45) Growing rice results in the release of _____ into the atmosphere

a) methane b) nitrous oxide c) ozone d) hydroflurocarbons

46) What is the difference between a threatened species and an endangered species?
(a) A threatened species means that the population is likely to become endangeredAn endangered species has population numbers so low that it is likely to become extinct
(b) A threatened species is already extinct. An endangered species means that the population's numbers have increased greatly over the last 5 years
(c) A threatened species means that the population is likely to become endangered. An endangered species is already extinct
(d) A threatened species and an endangered species are the same

47) Edge species
(a) decrease biodiversity
(b) only exist in areas that have been altered by humans
(c) require the unique homogenous edge environment
(d) may require conditions found in both of the bordering ecosystems.

48) which of the following is a native species of India
a) Two horned rhinoceros b) rhesus monkey c) komodo dragon d) none

49) Which book written by Rachel Carson resulted in banning DDT in USA?
a) silent spring b) the environmentalism
c) biomagnifications d) food chain

50) which of the following competition is severe?
a) intra specific b) inter specific c) extra specific d) none

51) The water (prevention and control) pollution act came into force in the year
a) 1972 b) 1974 c) 1977 d) 1981

52) The conference on 'the human environment" held from 5 to 16 June 1972 was held in
a. Stockholm, Sweden b. Tbilisi, Soviet Union
c. Rio de Janeiro, Brazil d. Kyoto, Japan

53) Man and biosphere programme is affiliated with...
a. UNESCO b. IUCN c. WWF d. WIPO

54) What does "system" imply in the term "ecosystem"?
a. environment b. Interdependent complex
c. System approach d. ecological systems

55). The term "ecology" was defined for the first time in 1970 by...
a. Haeckel b. St. Hilaire c. Jackson Mivart d. H. Reiter

56)The "Vienna Convention" related with environment is basically related with..
a. international trade in endangered species b. protection of ozone layer
c. biodiversity conservation d. preservation of cultural environment

57) Which of the following gases has an important role in maintaining atmosphere temperature?
a. nitrogen b. Oxygen c. argon d. Carbon dioxide

58) The world's biggest GHG emitter is-
a. china b.USA c. India d. South Africa

59) The outermost zone of a biosphere reserve is-
a. manipulation zone b. core zone c. buffer zone d. any of these

60) Identify the correct match of a tiger reserve and the state in which it is located
a. Corbett—Madhya Pradesh b. darra—rajasthan
c.perambakulam—karnataka d. Bandipur—Tamil Nadu.

51. Among the following environmental pollutants has the problem of

biomagnifications-
(a) SO2 (b) NO3 (c) Hg fungicides (d) O3 & CO2

52. An increase in the atmospheric level of automobile exhaust gases does not lead to-
(a) Pb Pollution (b) O2 Pollution (c) Particulate air pollution (d) O3 Pollution

53. The compound mainly responsible for pollution which caused the ill famed Bhopal gas tragedy was-
(a) NH4OH (b) CH3NCO (c) CH3NH2O (d) CHCl3

54. In recycling of mineral elements within an ecosystem, the responsible direct acing organism are called-
(a) Decomposers (b) Producers (c) Primary consumers (d) Secondary consumers

55. Eutrophication of water bodies resulting to killing of fishes is mainly due to-
(a) Non-availability of food (b) Non-availability of light
(c) Non-availability of oxygen (d) Non-availability of essential minerals

56. The pyramid of biomass will be inverted in the ecosystem of-
(a) Forests (b) Ponds (c) Grasslands (d) Drylands

57. Primary productivity at the climax stage of a succession is-
(a) Higher then consumption (b) Lower than the consumption
(c) Equal to consumption (d) Not related to consumption

58. UV radiations is injurious to plants because it-
(a) Break phosphate bonds (b) Increases respiration
(c) Causes dehydration (d) Causes genetic changes

59. The pyramid of number of a parasitic food chain in forest ecosystem is-
(a) Always inverted (d) Always upright

(b) Mixture of inverted & upright (d) Sometimes inverted and sometimes upright

60. The most stable ecosystem could be-
(a) Ponds (b) Oceans (c) Desert (d) Forest

61. Pollution of big cities can be controlled to large extent by-
(a) Wide roads and factories away from city
(b) Cleanliness drive and proper use of pesticides
(c) Proper sewage and proper exit of chemicals from factories
(d) All of the above

62. The Ecological pyramid that is always upright
(a) Pyramid of energy (b) Pyramid of biomass
(c) Pyramid of number (d) none of the above

63. "Green house effect" with respect to global warming refers to-
(a) Cooling & moist condition (b) Warming effect
(c) Increased rainfall & greenery (d) Desertification

64. In India, Tropical rain forest occurs in-
(a) Jammu and Kashmir (b) Andaman & Nicobar
(c) Uttar Pradesh (d) Himachal Pradesh

65. Insectivorous plant generally grow in soil which is deficient in-
(a) Water (b) Nitrogen (c) Potassium (d) Calcium

66. Atmospheric ozone layer which protect us from UV-B & C is getting depleted most by addition of-
(a) Chloro fluorocarbon (b) Carbon monoxide
(c) Carbon dioxide (d) Sulpur dioxide

67. A high BOD value in aquatic environment is indicative of-
(a) A pollution free system
(b) A highly polluted system due to excess of nutrients
(c) A highly polluted system due to abundant heterotrophs
(d) A highly pure water with abundance of autotrophs

68. In which of the following the maximum plant diversity is found-
(a) Tropical evergreen forests (b) Tropical moist deciduous forests
(c) Sub tropical mountain forests (d) Temperate moist forest

69. A term biotype means-
(a) All individuals having same phenotype
(b) All individuals having same genotype
(c) All individual with different phenotype
(d) All individuals with different genotype

70) The total number of extant species is approximately
A) 1,000 to 50,000. B) 50,000 to 150,000.
C) 500,000 to 1,000,000. D) 10,000,000 to 80,000,000. E) 5-10 billion.

71) Which of the following most directly relates to the current biodiversity crisis?
A) Increased atmospheric carbon dioxide
B) Ozone depletion
C) The rate of extinction
D) introduced species
E) Zoned reserves

72) Which of the following terms includes all of the others?
A) Genetic diversity B) species diversity C) biodiversity D) ecosystem diversity

73) In order to better understand the extent of current extinctions it will be necessary to do which of the following?

A) Focus intensely on identifying more species of mammals and birds.
B) Monitor atmospheric carbon dioxide levels.
C) Differentiate between plant extinction and animal extinction.
D) Use the average extinction rates of vertebrates as a baseline.
E) Identify more of the yet unknown species of organisms on our planet.

74) Estimates of current rates of extinction
A) indicate that we have reached a state of unstable equilibrium in which speciation and extinction rates are approximately equal.
B) suggest that one-half of all animal and plant species may be gone by the year 2100.
C) indicate that rates may be 1,000 times higher than at any other time in the last 100,000 years.
D) B and C only are true.
E) A, B, and C are true.

75) The most accurate assessments of current extinction rates probably come from studies of-
A) reptiles, because they are ectothermic and susceptible to population declines during frequent past glacial periods.
B) birds and mammals, because they are relatively well-known taxa.
C) marine invertebrates, because of their relatively long and complete fossil history.
D) insects, because they comprise the vast majority of extant multicellular organisms.
E) vascular plants, because they do not move around.

76) Which of the following would not qualify as an ecosystem service?
A) Rain falling to Earth
B) squirrels burying acorns
C) Leaves falling on a forest floor
D) blowfly larvae infesting a deer carcass
E) Bees pollinating an apple tree

77) Which of the following is a valid conclusion about the outcome of Biosphere II?
A) Natural ecosystems are complex and not easily duplicated.
B) Humans cannot live in small spaces for an extended period of time.
C) Closed ecoystems must be made airtight.

D) Small populations are more likely to go extinct.
E) Fragmented habitats can reduce species diversity.

78) According to most conservation biologists, the single greatest threat to global biodiversity is
A) insufficient recycling programs for nonrenewable resources.
B) global climate change resulting from a variety of human activities.
C) stratospheric ozone depletion.
D) chemical pollution of water and air.
E) alteration or destruction of the physical habitat.

79) The Nile perch (Lates niloticus) is a good example of a(n)
A) endangered endemic.
B) threatened migratory species.
C) Primary consumer.
D) Population sink.
E) Introduced predator.

80) Which of the following was not presented as an example of an introduced species?
A) red foxes in Australia
B) timber wolves in Minnesota
C) starlings in New York
D) zebra mussels in the Great Lakes
E) kudzu in the southern United States

81) Introduced species can have important effects on biological communities by
A) preying upon native species.
B) Displacing native species.
C) Reducing biodiversity.
D) Competing with native species for resources.
E) Doing all of the above.

82) Which of the following does not represent a potential threat to biodiversity?
A) importing a European insect into the United States to control an undesirable weed
B) letting previously used farmland go fallow and begin to fill with weeds and shrubs
C) building a new mall on a previously unoccupied piece of midwestern prairie.

D) harvesting all of the oysters from an oyster bed off the Atlantic coast
E) shooting wolves because they pose a threat to cattle farmers.

83) All of the following apply to the concept of the extinction vortex except:
A) Populations of the species entering it are small.
B) It is a concept developed by conservation biologists who adopt the "small population approach."
C) The genetic variation of the species' population decreases.
D) The key factor driving the extinction vortex is intraspecific competition.
E) Interbreeding leads to smaller populations, this leads to more interbreeding, and so on.

84) Which of the following is a method of predicting the likelihood that a species will persist in a particular environment?
A) source-sink analysis B) minimum viable population size
C) population dynamic analysis D) population viability analysis
E) None of the above can predict whether a species will persist.

85) A cow's herbivorous diet indicates that it is a(n)
A) secondary consumer. B) decomposer.
C) primary consumer. D) autotroph. E) producer.

86) Which of the following organisms fix nitrogen in aquatic ecosystems?
A) fungi B) chemoautotrophs C) cyanobacteria D) legumes E) phytoplankton

87) Which of the following statements is (are) true?
A) At any point in time, it is impossible for consumers to outnumber producers in an ecosystem.
B) An ecosystem's trophic structure determines the rate at which energy cycles within the system.
C) Chemoautotrophic prokaryotes near deep-sea vents are primary producers.
D) There has been a well-documented increase in atmospheric carbon dioxide over the past several decades.
E) Both C and D are true.

88) Production, consumption, and decomposition are important ecosystem processes. Organisms in which of the following taxa perform decomposition?
A) Invertebrates B) bacteria C) vertebrates D) A and C E) A, B, and C

89) Organisms in which of the following taxa are responsible for most of the conversion of organic materials into inorganic compounds that can be utilized in primary production?
A) autotrophs B) bacteria C) fungi D) B and C E) A, B, and C

90) The main decomposers in an ecosystem are
A) fungi. B) plants. C) insects. D) prokaryotes. E) A and B.

91) The fundamental difference between materials and energy is that
A) Energy is cycled through ecosystems; materials are not.
B) Materials can be converted into energy; energy cannot be converted into materials.
C) Energy can be converted into materials; materials cannot be converted into energy.
D) Ecosystems are much more efficient in their transfer of energy than in their transfer of materials.
E) Materials are cycled through ecosystems; energy is not.

92) The concept that energy cannot cycle through an ecosystem is best explained by
A) the law of conservation of energy.
B) the principle of biomagnification.
C) the second law of thermodynamics.
D) the competitive exclusion principle.
E) the Green World hypothesis.

93) Subtraction of which of the following will convert gross primary productivity into net primary productivity?
A) the energy fixed by photosynthesis

B) all solar energy
C) the energy contained in the standing crop
D) the energy used by heterotrophs in respiration
E) the energy used by autotrophs in respiration

94) The difference between net and gross primary productivity would likely be greatest for
A) prairie grasses.
B) sphagnum moss in a bog.
C) phytoplankton in the ocean.
D) corn plants in a farmer's field.
E) An oak tree in a forest.

95) Which of these ecosystems accounts for the largest amount of Earth's primary productivity?
A) open ocean B) savanna
C) tundra D) salt marsh E) tropical rain forest

96) The producers in ecosystems include which of the following?
I. prokaryotes II. Algae III. plants
A) I only B) II only C) III only D) I and III only E) I, II, and III

97) Which of these ecosystems has the highest primary productivity per square meter?
A) open ocean B) tropical rain forest
C) boreal forest D) temperate forest E) savanna

98) The total biomass of photosynthetic autotrophs present in an ecosystem is known as the
A) net primary productivity. B) Standing crop. C) tropic efficiency.
D) gross primary productivity. E) Secondary productivity.

99) Aquatic primary productivity is often limited by which of the following?
I. light II. Nutrients III. Pressure

A) II only B) III only C) I and II only D) II and III only E) I, II, and III