

Test Booklet
Series

A

Paper No.

20

Written Test Paper, 2021

**SKILL INSTRUCTOR
(EVS)**

Test Booklet No.

Name of Applicant Answer Sheet No.

Application No. : SVSU/2020/Estt/NT/ Signature of Applicant :

Date of Examination : **25 / 12 / 2021**

Signature of the Invigilator(s)

1.

Time of Examination :

2.

Duration : 2 Hours]

[Maximum Marks : 100

IMPORTANT INSTRUCTIONS

- (i) The question paper is in the form of Test-Booklet containing **100 (Hundred)** questions. All questions are compulsory. Each question carries four answers marked (A), (B), (C) and (D), out of which only one is correct.
- (ii) On receipt of the Test-Booklet (Question Paper), the candidate should immediately check it and ensure that it contains all the pages, i.e., **100** questions. Discrepancy, if any, should be reported by the candidate to the invigilator immediately after receiving the Test-Booklet.
- (iii) A separate Answer-Sheet is provided with the Test-Booklet/Question Paper. On this sheet there are **100** rows containing four circles each. One row pertains to one question.
- (iv) The candidate should write his/her Application number at the places provided on the cover page of the Test-Booklet/Question Paper and on the Answer-Sheet and **NOWHERE ELSE**.
- (v) No second Test-Booklet/Question Paper and Answer-Sheet will be given to a candidate. The candidates are advised to be careful in handling it and writing the answer on the Answer-Sheet.
- (vi) For every correct answer of the question **One (1) mark will be awarded**. For every unattempted question, Zero (0) mark shall be awarded. **There is no Negative Marking**.
- (vii) Marking shall be done only on the basis of answers responded on the Answer-Sheet.
- (viii) To mark the answer on the Answer-Sheet, candidate should **darken** the appropriate circle in the row of each question with Blue or Black pen.
- (ix) For each question only **one** circle should be **darkened** as a mark of the answer adopted by the candidate. If more than one circle for the question are found darkened or with one black circle any other circle carries any mark, the question will be treated as cancelled.
- (x) The candidates should not remove any paper from the Test-Booklet/Question Paper. Attempting to remove any paper shall be liable to be punished for use of unfair means.
- (xi) Rough work may be done on the blank space provided in the Test-Booklet/Question Paper only.
- (xii) *Mobile phones (even in Switch-off mode) and such other communication/programmable devices are not allowed inside the examination hall.*
- (xiii) No candidate shall be permitted to leave the examination hall before the expiry of the time.

DO NOT OPEN THIS QUESTION BOOKLET UNTIL ASKED TO DO SO.

[P.T.O.

20 / 1

1. Basic unit of ecological hierarchy is
 - (A) Population
 - (B) Ecosystem
 - (C) Community
 - (D) Individual
2. The rate of secondary succession is faster than primary succession because
 - (A) Soil or sediment is already present
 - (B) Water is available in large quantity
 - (C) Climax community is already present
 - (D) pH of soil is favourable
3. Polyblend is
 - (A) A mixture of two different types of plastics
 - (B) A fine powder of recycled modified plastic
 - (C) A blend of plastic and bitumen
 - (D) None of these
4. A dental disease characterised by mottling of teeth is due to the presence of certain chemical element in drinking water. Which of the following is that element?
 - (A) Fluorine
 - (B) Mercury
 - (C) Boron
 - (D) Chlorine
5. A prolonged exposure to noise at 95 db can produce
 - (A) Respiratory trouble
 - (B) Skin cancer
 - (C) Nervous tension and increased blood pressure
 - (D) Digestive spasm
6. Which one of the following statements regarding CO gas is correct?
 - (A) It is produced by the complete combustion of fossil fuels.
 - (B) It combines with haemoglobin to form carbamino-haemoglobin.
 - (C) It impairs oxygen transport resulting in giddiness, headache, asphyxia and even death.
 - (D) All of these
7. Ozone layer of upper atmosphere is being destroyed by
 - (A) Chlorofluorocarbons
 - (B) O₂ and CO₂
 - (C) SO₂
 - (D) Smog
8. Read and select the incorrect option about desertification.
 - (A) A desert is created when barren patches of land meet.
 - (B) Desertification is the result of increased urbanization.
 - (C) Deserts are arid patches of land.
 - (D) Slash and burn method is one of the major cause of desertification.

9. Seasonal variation of earth occurs due to its
- Tilted axis
 - Rotation around its own axis
 - Revolution around sun
 - Both (A) and (C)
10. Total number of individuals of a species per unit area and per unit time is called
- Population size
 - Demography
 - Population density
 - Population dynamic
11. An inverted pyramid of biomass can be found in which ecosystem?
- Forest
 - Marine
 - Grassland
 - Tundra
12. Which of the following process does not contribute to the CO₂ pool in the atmosphere?
- Respiration by producers
 - Respiration by consumers
 - Photosynthesis by producers
 - Decomposition by decomposers
13. Different biomes are formed due to annual variations in _____ over the earth's surface.
- Temperature
 - Incident solar radiation
 - Precipitation
 - All of these
14. A population with a larger proportion of older individuals than younger ones will likely to
- Grow larger and then decline
 - Decline
 - Continue to grow larger indefinitely
 - Not experience a change in population size
15. Amensalism is an association between two species where
- One species is harmed and other is benefitted
 - One species is harmed and other is unaffected
 - One species is benefitted and other is unaffected
 - Both the species are harmed
16. Which of the following types of ecosystems is expected in an area where evaporation exceeds precipitation, and mean annual rainfall is below 100 mm?
- Grassland
 - Desert
 - Shrubby forest
 - Mangrove

17. In India, we find mangoes with different flavours, colours, fibre content, sugar content and even shelf-life. The large variation is on account of
- (A) Genetic diversity
 - (B) Species diversity
 - (C) Induced mutations
 - (D) Hybridisation
18. Which of the following statements is correct?
- (A) Primary pollutants are more harmful than secondary pollutants.
 - (B) Primary pollutants and secondary pollutants are equally harmful.
 - (C) Secondary pollutants are more harmful than primary pollutants.
 - (D) DDT is a secondary pollutant.
19. A critically endangered animal is
- (A) Passenger pigeon
 - (B) Great Indian bustard
 - (C) Dodo
 - (D) Zebu
20. Which of the following is not a correct match of the term and its description?
- (A) Ecosystem – Functional unit of nature
 - (B) Global ecosystem – Entire biosphere
 - (C) Aquatic ecosystem – Wetland
 - (D) Natural ecosystem – crop field
21. Characteristics of a terrestrial biome are strongly influenced by its
- (A) Flora
 - (B) Fauna
 - (C) Climate
 - (D) All of these
22. In a comparative study of grassland ecosystem and pond ecosystem, it may be observed that
- (A) The abiotic components are almost similar.
 - (B) The biotic components are almost similar.
 - (C) Both biotic and abiotic components are different.
 - (D) Primary and secondary consumers are similar.
23. Western ghats have a greater number of amphibian species than the Eastern ghats. What kind of diversity does it represent?
- (A) Species diversity
 - (B) Ecological diversity
 - (C) Genetic diversity
 - (D) None of these
24. The Government of India has passed the environment (Protection) Act in the year
- (A) 1990
 - (B) 1986
 - (C) 1987
 - (D) 1992

25. Which of the following is correct for infrared radiations?
- (A) They are long wave radiations.
 - (B) They are visible radiations.
 - (C) They are short wave radiations.
 - (D) None of these
26. Montreal protocol is associated with
- (A) Control of emission of ozone depleting substances
 - (B) Control of radioactive wastes
 - (C) Control of desertification
 - (D) Protection and management of forests
27. The key element that determine differences in environmental conditions of different habitats include
- (A) Temperature
 - (B) Soil
 - (C) Light
 - (D) All of these
28. The movement of energy from lower to higher trophic level is
- (A) Always unidirectional
 - (B) Sometimes unidirectional
 - (C) Always bidirectional
 - (D) Undeterminable
29. Approximately how much of the solar energy that falls on the leaves of a plant is converted to chemical energy by photosynthesis?
- (A) Less than 1%
 - (B) 30%
 - (C) 2-10%
 - (D) 50%
30. The diversity of organisms sharing the same habitat or community is termed as
- (A) Alpha diversity
 - (B) Gamma diversity
 - (C) Beta diversity
 - (D) Delta diversity
31. _____ is the exploration of molecular, genetic and species-level diversity for gaining the products of economic importance.
- (A) Exploitation
 - (B) Co-extinction
 - (C) Bioprospecting
 - (D) Patenting
32. Acid rains are produced by
- (A) Excess NO_x and SO_2 from burning fossil fuels
 - (B) Excess production of NH_3 by industries and power plants
 - (C) Excess release of carbon monoxide by incomplete combustion of fossil fuels
 - (D) Excess release of CO_2 by combustion and animal respiration

33. Which of the following can cause DNA damage and mutations in humans?
- (A) Absorption of UV-A and UV-B
 - (B) Absorption of UV-A
 - (C) Absorption of UV-B
 - (D) Absorption of UV-A and UV-C
34. A lake with an inflow of domestic sewage rich in organic waste may result in
- (A) Drying of the lake very soon due to algal bloom.
 - (B) An increased growth of fishes due to lot of nutrients.
 - (C) Death in fishes due to lack of oxygen.
 - (D) Increased population of aquatic food web organisms.
35. Which of the following is an important adaptation of animals to the cold climate?
- (A) Thin layer of body fat
 - (B) Aestivation
 - (C) Increased tendency to shiver
 - (D) Reduced surface area to volume ratio
36. The rate of conversion of light energy into chemical energy of organic molecules in an ecosystem is
- (A) Net primary productivity
 - (B) Secondary productivity
 - (C) Gross primary productivity
 - (D) Gross secondary productivity
37. During the process of ecological succession, the changes that take place in communities are
- (A) Orderly and sequential
 - (B) Random
 - (C) Very quick
 - (D) Not influenced by the physical environment
38. India is one of the 17 megadiversity countries of the world and is being divided into _____ biogeographical regions.
- (A) 8
 - (B) 16
 - (C) 10
 - (D) 18
39. Peroxyacyl nitrates (PAN) are formed through photo-chemical reactions between
- (A) Sulphur oxides and hydrocarbons
 - (B) Nitrogen oxides and O_3
 - (C) Nitrogen oxides and hydrocarbons
 - (D) $CFCl_3$ and O_3
40. What is studied under the 'microcosm'?
- (A) Ecosystem
 - (B) Non-living things
 - (C) Living organisms
 - (D) None of the above

41. Aspects such as sedentary habitat, territoriality, etc., not aiding diversification are classified as
- (A) Reproductive isolation
 - (B) Biological barriers
 - (C) Mutational effects
 - (D) Genetic incompatibility
42. Altruism is shown by
- (A) Vertebrates
 - (B) Wasps
 - (C) Honeybee
 - (D) Both (B) and (C)
43. Which of the following is the way to control vehicular air-pollution in Indian cities?
- (A) Use of CNG as fuel
 - (B) Use of unleaded petrol in the vehicles
 - (C) Use of catalytic converter in the vehicles
 - (D) All of these
44. Drastic reduction in the population of an animal during winter or other unfavourable periods is known as
- (A) Gene stress
 - (B) Genetic bottleneck
 - (C) Hybrid breakdown
 - (D) None of the above
45. Hydrological cycle comprises of two overlapping cycles
- (A) Surface water and atmospheric cycles
 - (B) Oceanic and fresh water cycles
 - (C) Ground water and atmospheric cycles
 - (D) Global and smaller cycles
46. Vertical distribution of different species occupying different levels in dense vegetation is called
- (A) Stratification
 - (B) Standing crop
 - (C) Species composition
 - (D) Trophic structure
47. Which of the following is a reason for the greater biological diversity of tropical regions?
- (A) Tropical latitudes have remained almost undisturbed for millions of years.
 - (B) Tropical environments are less seasonal, relatively more constant and predictable.
 - (C) More solar energy is available in the tropics, resulting in high productivity.
 - (D) All of these
48. Which of the following regions is the richest in diversity and density of plants?
- (A) Warm tropical
 - (B) Cool arctic zone
 - (C) Equatorial belt
 - (D) Both polar regions

49. Biodegradable pollutants are the
- (A) Domestic wastes that can be rapidly decomposed under natural conditions.
 - (B) Industrial wastes that can be rapidly decomposed under natural conditions.
 - (C) Industrial wastes that can be decomposed under artificial conditions.
 - (D) None of the above
50. Which is referred to as 'Lungs of the Planet Earth'?
- (A) Western Ghats
 - (B) Green Land
 - (C) Himalayas
 - (D) Amazon rain forest
51. The best way to reduce the population of undesirable species is
- (A) Reduce the carrying capacity of the environment for that species
 - (B) Elimination of females
 - (C) Elimination of the young generation
 - (D) None of the above
52. The lowest region of atmosphere is known as
- (A) Thermosphere
 - (B) Stratosphere
 - (C) Troposphere
 - (D) Heterosphere
53. The correct sequence of components through which energy may pass from initial source, through an ecosystem is
- (A) Sun – autotrophs – heterotrophs – environment – space
 - (B) Space – environment – heterotrophs – autotrophs – sun
 - (C) Sun – space – environment – heterotrophs – autotrophs
 - (D) Sun – space – environment – autotrophs – heterotrophs
54. Pick the correct statement.
- (A) Home range of members of a species has larger area than that of territory.
 - (B) Many insects mainly honey bees communicate among themselves by secreting pheromones.
 - (C) The last succession in series of biotic succession is called a sere.
 - (D) Number of individuals of particular species present in a unit area at a given time is known as population size.
55. Organization responsible for maintaining Red Data Book is
- (A) IUCN
 - (B) CITES
 - (C) WWF
 - (D) IBWL

56. The creating force of an ecosystem is
- (A) Organic fuels, carbohydrates
 - (B) Solar energy
 - (C) Biomass
 - (D) Producers
57. The pyramid of number in a grassland ecosystem is
- (A) Always erect
 - (B) Either erect or inverted
 - (C) Always inverted
 - (D) Irregular
58. Plagioclimax is climax of plagiosere which means
- (A) Sere of marine plants
 - (B) Deflected sere resulting in deviation of plant succession from natural course due to human activity
 - (C) Sere where plant succession deviates from its natural course due to human activity
 - (D) Both (B) and (C)
59. The type of food chain in which organic matter decomposed is converted into energy rich compounds is called
- (A) Detritus food chain
 - (B) Cybernetics
 - (C) Grazing food chain
 - (D) None of the above
60. Sustainable environment means
- (A) Disturbed environment
 - (B) Polluted environment
 - (C) Non-developing environment
 - (D) Environment which can be maintained
61. Ozone hole is
- (A) Absence of O₃ in troposphere
 - (B) Deficiency of O₃ in stratosphere
 - (C) Absence of O₃ in stratosphere
 - (D) Deficiency of O₃ in troposphere
62. Species diversity _____ as one moves from high to low altitudes.
- (A) Increases
 - (B) First increases then decreases
 - (C) Decreases
 - (D) First decreases then increases
63. Chlorofluorocarbons are air polluting agents which are produced by
- (A) Diesel trucks
 - (B) Rice fields
 - (C) Jet planes
 - (D) Cell phones
64. Rivet popper hypothesis was given by
- (A) Paul Ehrlich
 - (B) David Tilman
 - (C) Alexander von Humboldt
 - (D) Robert May

65. No two different species can occupy the same niche. This principle was given by
(A) Elton
(B) Lindeman
(C) Shelford
(D) Gause
66. Which of the following statements is correct with regard to Bergmann's rule?
(A) Animals of colder area have large size.
(B) Fish of colder area have large size.
(C) Birds of colder areas have narrow wings.
(D) Animals of colder areas possess thick fur.
67. Initiatives taken under Namami Gange Project
(A) Setting up of a Turtle Sanctuary in Allahabad along with River Biodiversity Park
(B) Launch of holistic sanitation development in villages on the banks of River Ganga
(C) Both Correct
(D) Both Incorrect
68. Which one of the following is the most productive ecosystem?
(A) Temperate forest
(B) Grassland
(C) Desert
(D) Tropical rainforest
69. Climax community is in a state of
(A) Non-equilibrium
(B) Equilibrium
(C) Disorder
(D) Constant change
70. Which method is used to conserve wetland?
(A) Reduce waste and trash
(B) Reuse waste and trash
(C) Recycle waste and trash
(D) All of above
71. Edaphic factor refers to
(A) Water
(B) Relative humidity
(C) Soil
(D) Altitude
72. Which one of the following statements is incorrect regarding Bhopal gas tragedy?
(A) Methyl isocyanate gas leakage took place.
(B) Thousands of human beings died.
(C) Radioactive fall out engulfed Bhopal.
(D) It took place in the night of December 2/3, 1984.

73. Gandhamardan movement is aimed to protect biodiversity of
- (A) Odisha Hills
 - (B) Uttarakhand Hills
 - (C) Kashmir Hills
 - (D) None of the above
74. The maximum possible number of individuals that a habitat can support is called its
- (A) Fecundity
 - (B) Carrying capacity
 - (C) Surviving ability
 - (D) Biotic potential
75. Alluvial soils are mostly found in which region
- (A) Eastern Ghats
 - (B) Southern India
 - (C) Upper Gangetic plains
 - (D) Eastern Himalaya
76. If similar species reproduce at different seasons or different times of the day such isolation will be
- (A) Temporal
 - (B) Geographical
 - (C) Ethological
 - (D) Mechanical
77. If an ecosystem is composed of only three trophic levels, then how much energy will be conserved at the III trophic level
- (A) 30%
 - (B) 10%
 - (C) 20%
 - (D) 0.1%
78. The major sub-divisions of biospheres are
- (A) Soil, water and hydrosphere
 - (B) Soil, atmosphere and lithosphere
 - (C) Atmosphere, lithosphere and hydrosphere
 - (D) Atmosphere, lithosphere and air
79. The bacteria which attack dead animals are
- (A) First link of the food chain and are known as primary producers
 - (B) Second link of the chain and are herbivores
 - (C) Third link of the chain and are tertiary consumers
 - (D) The end of food chain and are decomposers
80. The efficiency of any ecosystem is best depicted by pyramid of
- (A) Energy
 - (B) Biomass
 - (C) Number
 - (D) Volume

81. Which of the following factors has a negative effect on the population growth rate?
- (A) Emigration
 - (B) Natality
 - (C) Immigration
 - (D) Fecundity
82. If 10 Joules of energy is available at the producer level, then amount of energy present at the level of secondary consumer is
- (A) 10 J
 - (B) 1 J
 - (C) 0.1 J
 - (D) 0.01 J
83. Pyramid biomass for a grazing food chain represents
- (A) Gradual decrease in biomass from apex to base
 - (B) Gradual decrease in biomass from producers to the tertiary consumers
 - (C) Gradual increase of the biomass from producers to the tertiary consumers
 - (D) No change in biomass
84. The reservoir for the gaseous type of biochemical cycle exists in
- (A) Stratosphere
 - (B) Ionosphere
 - (C) Atmosphere
 - (D) Lithosphere
85. The impact of loss of biodiversity includes
- (A) Decline in plant production
 - (B) Lowered resistance to environmental perturbations
 - (C) Increased variability in ecosystem processes like plant productivity, water use, pest and disease cycles
 - (D) All of these
86. Which of the following is a method used to get rid of particulate matter present in the exhaust from a thermal power plant?
- (A) Magnetic precipitator
 - (B) Chromatography
 - (C) Electrostatic precipitator
 - (D) Mass spectrometry
87. Which of the following is the oldest ecosystem?
- (A) Chaparrals
 - (B) Coral reefs
 - (C) Tropical rain forest
 - (D) Estuary
88. Allopatric speciation occurs when
- (A) Generally unrelated populations inhabit the same geographical area
 - (B) Genetically related populations inhabit the same geographical area
 - (C) Genetically unrelated populations inhabit widely separated geographical area
 - (D) Genetically related population inhabit widely separated geographical area

89. Succession on secondary bare area is
- (A) Subserve
 - (B) Xerosere
 - (C) Primosere
 - (D) None of the above
90. About 70% of total global carbon is found in
- (A) Grassland ecosystems
 - (B) Forests
 - (C) Agroecosystems
 - (D) Oceans
91. Which of the following contribute to the carbon cycle?
- (A) Photosynthesis
 - (B) Fossil fuel combustion
 - (C) Respiration
 - (D) All of the above
92. 'Hot spots' of biodiversity means
- (A) Spots of maximum poachery on earth
 - (B) Richest and most threatened reservoir of plant and animal life on earth
 - (C) Spots of maximum exotic species
 - (D) All of these
93. Which of the following bird have become extinct recently?
- (A) Carolina Parakeet
 - (B) Kirtland Warbler
 - (C) Peacock
 - (D) Reed Bunting
94. NEERI is
- (A) National Ethological and Ecological Research Institute
 - (B) National Eugenics and Ecological Research Institute
 - (C) National Ethological and Environment Research Institute
 - (D) National Environment Engineering Research Institute
95. The presence of ozone in the atmosphere of earth
- (A) Hinders higher rate of photosynthesis
 - (B) Has been responsible for increasing the average global temperature in the recent past
 - (C) Helps in checking the penetration of ultra violet rays to earth
 - (D) Is advantageous since it supplies oxygen for people travelling in jets

96. The pollutants responsible for the luxuriant growth of algae which forms water blooms is
- (A) Phosphates
 - (B) H_2S
 - (C) DDT
 - (D) Sulphates
97. The 'blue baby' syndrome is related to
- (A) Excess of TDS (total dissolved solids)
 - (B) Excess of chloride
 - (C) Methemoglobin
 - (D) Excess of dissolved oxygen
98. Montreal protocol is related to
- (A) Ozone depletion
 - (B) Climatic changes
 - (C) Global warming
 - (D) Biodiversity hot spot
99. Wild life (Protection) Act 1972 includes which of the following objectives
- (A) Restriction and Prohibition on hunting of animals
 - (B) Setting up and managing sanctuaries and National Parks
 - (C) Protection of specified plants
 - (D) All of these
100. Thermocline is
- (A) Part of upper atmosphere in which temperature increases with height
 - (B) Part of upper atmosphere where temperature declines with height
 - (C) The layer of water in a lake where temperature decreases rapidly with increasing depth
 - (D) The layer of earth where temperature increases rapidly with increasing depth

ROUGH WORK

Skill Instructor EVS

Ans key

1. D	26. A	51. A	76. A
2. A	27. D	52. B	77. D
3. B	28. A	53. D	78. C
4. A	29. C	54. C	79. D
5. C	30. A	55. A	80. A
6. C	31. C	56. B	81. A
7. A	32. A	57. A	82. C
8. D	33. C	58. D	83. B
9. C	34. C	59. A	84. C
10. C	35. D	60. D	85. D
11. B	36. C	61. C	86. C
12. C	37. A	62. A	87. B
13. D	38. C	63. C	88. C
14. B	39. C	64. A	89. A
15. B	40. A	65. D	90. D
16. B	41. B	66. A	91. D
17. A	42. D	67. C	92. B
18. C	43. D	68. D	93. D
19. B	44. B	69. B	94. D
20. D	45. A	70. D	95. C
21. D	46. A	71. C	96. A
22. C	47. D	72. C	97. C
23. A	48. C	73. A	98. A
24. B	49. A	74. B	99. D
25. A	50. D	75. C	100. C