Organisms and Populations

1. **Assertion (A):** Population ecology is an important area of ecology.
Reason (R): It links ecology to population genetics and evolution.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

2. **Assertion (A):** Size of population is one of the dynamic parameters of study-population characteristics.
Reason (R): Depending on food availability, predation pressure and adverse weather it keeps changing.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

3. **Assertion (A):** The logistic growth model is considered a more realistic one.
Reason (R): Resources for growth for most organism/populations are finite and become limiting sooner or later.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

4. **Assertion (A):** Exotic species introduced in new geographical area can cause havoc by rapid spreading.
Reason (R): Biotic potential of exotic species is always higher.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

5. **Assertion (A):** Predators helps in maintaining species diversity in a community.
Reason (R): Predators reduce the intensity of competition among competing prey species.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

6. **Assertion (A):** Competition is best defined as a process in which fitness (r) of one species significantly lower in presence of another species.
Reason (R): Competition leads to either short supply of resources or it shows interference.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

7. **Assertion (A):** Resource partitioning can avoid competition.
Reason (R): Resource partitioning leads to different times for feeding or different for raging patterns.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

8. **Assertion (A):** Host and parasite tend to co-evolve.
Reason (R): Many parasites have evolved to be host specific.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

9. **Assertion (A):** All parasites are tend to cause physical weakness in host.
Reason (R): Parasites might render the host more vulnerable to predation by making it physically weak.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

10. **Assertion (A):** Female mosquito is not considered as parasite although it needs our blood for reproduction.
Reason (R): Parasitism is aimed to obtain either food or shelter, reproduction success is not the base of parasitism.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

11. **Assertion (A):** Plant and animal interactions often involve co-evolution of the mutualists.
Reason (R): Co-evolution of the mutualists is one of the safe guard against cheaters.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

12. **Assertion (A):** The life is interesting and most surprised phenomenon of nature.
Reason (R): It's reflected by ecological conflict and cooperation among members of a population and among populations of a community or even the molecular traffic inside a cell.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

Directions: In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as:
(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(c) If Assertion is true but Reason is false.
(d) If both Assertion and Reason are false.

13. **Assertion:** Besides curdling of milk, LAB also improve its nutritional quality by increasing vitamin-B_{12}.
Reason: LAB, when present in human stomach, check disease causing microbes.

14. **Assertion :** Yeasts such as Saccharomyces cerevisiae are used in baking industry.
Reason : Carbon dioxide produced during fermentation causes bread dough to rise by thermal expansion.

15. **Assertion:** Beer and wine are called soft liquors while gin, rum, etc. are hard liquors.
Reason: Beer and wine are made without distillation.

16. **Assertion:** An organ transplant patient if not provided with cyclosporin A may reject the transplanted organ.
Reason: Cyclosporin A inhibits activation of T-cells and interferes with destruction of non-self cells.

17. **Assertion:** Secondary treatment of sewage is also called biological treatment while primary treatment is called physical treatment.
Reason Primary sewage treatment depends only upon sedimentation properties of materials present in sewage and filteration.

18. **Assertion:** Bioenergy is the energy available from biological sources.
Reason: Fossil fuels are examples of bioenergy.

19. **Assertion:** Most orchid seedlings cannot develop well in the absence of fungal mycelium.
Reason: Fungal mycelium increases efficiency of absorption only.

20. **Assertion:** Nucleic acid complexes alone cannot cause diseases.
Reason: Only nucleoproteins can function as infectious agents.

21. **Assertion:** Chemical pesticides are more hazardous as compared to biopesticides.
Reason: Chemical pesticides are mostly nonspecific, expensive, hazardous and pollute the atmosphere.

22. **Assertion:** Biofertilizers are preferred to chemical fertilizers.
Reason: Chemical fertilizers are generally more expensive and hazardous to environment.

23. **Assertion:** Nitrogenase enzyme gets inactivated in presence of oxygen yet N2 fixation occurs in aerobic cells of legume nodules.
Reason: Leghaemoglobin allows presence of oxygen just sufficient for cellular respiration only.

24. **Assertion:** Enzyme application in industry is enhanced by its immobilization.
Reason: Immobilization provides protection to enzymes without affecting their activity.

ANSWER KEY											
Que.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Ans.	1	2	1	3	1	2	1	1	2	1	1	1

13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.					
B	A	B	A	A	C	C	D	A	A	A	A					