Biological Classification

1. Assertion (A): Two kingdom classification used for a long time was inadequate.

Reason (R): This system did not distinguish between the eukaryotes and prokaryotes, unicellular and multicellular.

- (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): In Earlier classifications bacteria, blue green algae, fungi, mosses, ferns, gymnosperms and angiosperms were included together under plants.

Reason (R): All the members possess cell wall over plasma membrane.

- (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):** Classification systems have undergone several changes over a period of time.

Reason (R): This happened, because the criteria for classifications get changed gradually.

- (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): Bacteria, the sole members of kingdom monera, are the most abundant micro-organisms.

Reason (R): Bacteria can tolerate extreme conditions, so they are found everywhere.

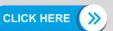
- (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
- (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
- (3) (A) is true but (R) is false
- (4) Both (A) and (R) are false
- **5. Assertion (A):** Cyanobacteria are photosynthetic autotrophs similar to higher plants.

Reason (R): Cyanobacteria have chlorophyll - a and Rubisco.

- (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):** Heterocyst are specialized cells of blue green algae for Nitrogen fixation.

Reason (R): In Heterocyst cells oxygen depleted conditions can be created, which is essential for Nitrogenase functioning.

- (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): Heterotrophic bacteria are the most abundant bacteria they have a significant impact on human affairs.

Reason (R): Heterotrophic bacteria are helpful in making curd, production of Antibiotics and fixation of nitrogen.

- (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):** Beside spore formation and binary fission a sort of sexual reproduction is also observed in bacteria, but it is not a typical sexual reproduction.

Reason (R): In such type of reproduction there is no gamete formation and fusion.

- (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):** Members of protista are eukaryotes.

Reason (R): Protistial cell body does not contain a well defined nucleus and other membrane bounded cell organelles.

- (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): Most of the dinoflagellates show heterokont flagellation.

Reason (R): Both of the flagella arise from different levels In them.

- (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):** Euglenoids show flexible life style.

Reason (R): In presence of sunlight they are photosynthetic while in sunlight deprived conditions they behave like heterotrophs.

- (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):** Slime moulds are extremely resistant and survive for many years.

Reason (R): Slime moulds possess branched phospholipids and thermostable enzymes.

- (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
- **13. Assertion (A):** Fungi prefer to grow in cold and humid areas.

Reason (R): Low temperature favours the metabolic activities.

- (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





14. Assertion (A): In Ascomycetes and Basidiomycetes well distinct Dikaryophase present during sexual life.

Reason (R): During sexual reproduction of Ascomycetes and Basidiomycetes plasmogamy is immediately followed by karyogamy.

- (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
- **15. Assertion (A):** Viruses are obligate intracellular parasite.

Reason (R): Outside the cells virus survive as non living inert crystalline structure.

- (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
- **16. Assertion (A):** Lichens are symbiotic associations.

Reason (R): Lichens are very good pollution indicators.

- (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
- **17. Assertion (A):** Archaebacteria are most resistant to adverse environmental conditions

Reason (R): In archaebacteria, cell wall and cell membrane are highly complex.

- (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

- **18. Assertion (A):** Progressive reduction of sexual reproduction is found in fungi **Reason (R):** Higher fungi do not produce sex organs and gametes
 - (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
- **19. Assertion (A):** Dikaryon is observed in Ascomycetes and Basidiomycetes.

Reason (R): In some fungi karyogamy is delayed after plasmogamy.

- (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
- **20. Assertion (A):** Nitrogenase is sensitive to oxygen hence an anaerobic condition is maintained for efficient nitrogen fixation.

Reason (R): High energy inputs for the cell to function demands high rates of aerobic respiration in the Kreb's cycle and hence behaves as an oxygen scavenger

- (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
- **21. Assertion (A):** Sex organs in fungi are unicellular and nonjacketed.

Reason (R): There is no embryo formation in the life cycle of fungi.

- (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







22. Assertion (A): Amoeba and Paramoecium are included in Kingdom Protista and not in Kingdom Animalia.

Reason (R): Unlike animals, a cell wall is present in these organisms.

- (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
- **23. Assertion (A):** The body of Euglenoids is flexible.

Reason (R): The cell wall in Euglenoids is cellulosic.

- (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
- **24. Assertion (A):** The artificial systems used for classification of living organisms are not very acceptable to taxonomists.

Reason (R): The artificial systems give more weightage to vegetative characteristics and no weightage to sexual characteristics and the sexual characteristics are easily affected by environment.

- (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

25. Assertion (A): Paramoecium and Amoeba, which were earlier placed in the animal kingdom which lack cell wall, are placed under Kingdom Protista in Whittaker's Classification.

Reason (R): The unicellular eukaryotic organisms are placed in Kingdom Protista in Whittaker's Classification.

- (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
- **26. Assertion (A):** Lichens are very good pollution indicators.

Reason (R): They grow profusely in polluted areas.

- (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
- **27. Assertion (A):** The cyanobacteria that are also referred to as blue green algae are not 'algae' any more.

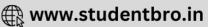
Reason (R): The cyanobacteria are photosynthetic autotrophs.

- (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
- **28. Assertion (A):** Alternaria, Colletotrichum and Trichoderma are kept in the fungal class- Deuteromycetes.

Reason (R): Asexual and vegetative phases in the life cycle of these fungi are not known. In the light of the above statements choose the correct answer from the options given below:

- (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.
- **29. Assertion:** Two kingdom classification was insufficient.

Reason: Majority of organisms failed to fall into either of the categories in two kingdom classification.

30. **Assertion:** Several ruminant animals contain methanogens within their gut.

Reason: Methanogens help in the production of methane from dung of ruminants.

31. **Assertion:** Cyanobacteria are photosynthetic autotrophs.

Reason: Cyanobacteria have chlorophyll a and b similar to green plants

32. **Assertion:** Cell wall of chrysophytes are indestructible.

Reason: Cell walls of chrysophytes have layer of magnesium pectate embedded in it.

33. **Assertion:** Kingdom-Protista forms a link between monerans and and the other organism like plants, animal and fungi.

Reason: Protist reproduce sexually and asexually by a process involving cell fusion and zygote formation.

34. **Assertion:** Deuteromycetes is known as fungi imperfecti.

Reason: In Deuteromycetes, only the asexual phase is known.

35. **Assertion:** Viruses are nucleoproteins and lack cell organelle, etc.

Reason: Viruses are not considered organism.

36. Assertion: "Contagium Vivum Pasteur Fluidum" was coined by Pasteur.

Reason: Pasteur found that virus infected plant of tobacco can cause infection in healthy plant.

37. **Assertion:** Some bacteria have the capacity to retain Gram stain after treatment with acid alcohol.

Reason: They are known as gram positive as they are attracted towards positive pole under influence of electric current.

38. Assertion: Cell secretion does not occur in bacteria.

Reason: Golgi complex is absent in bacteria.

39. Assertion: Chemosynthetic autotrophic bacteria oxidise various inorganic substances.

Reason: Energy released during oxidation is used in ATP production.

40. Assertion : Saccharomyces ellipsoidens is Wine yeast and Saccharomyces cerevisiae is Baker's yeast.

Reason: Yeast is used to make dry ice.

41. Assertion: Morels and Truffles are edible fungi.

Reason: Ascocarps are edible.

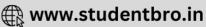
42. Assertion: Yeast are the best source of vitamin B complex.

Reason: Ashbya gossypii is a filamentous yeast.

43. Assertion: Virus is an obligate parasite. **Reason:** Virus is host specific.

Reason: virus is nost specific.





	ANSWER KEY																			
Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	1	1	1	1	1	1	1	1	3	1	1	3	4	3	1	2	1	1	1	3
Que.	21	22	23	24	25	26	27	28												
Ans.	2	2	3	1	1	3	2	3												

29	30	31	32	33	34.	35	36	37	38	30	40	41.	42.	43	
2)•	50.	51.	24.	22.	JT•	22.	50.	5	50•	37.	10.	-T1.	72.	TJ.	
а	h	C	c	h	а	а	d	C	a	b	b	a	b	b	

