

# Prachand NEET 2025

## Botany

### Biological Classification

DPP : 01

**Q1** Class sporozoa of phylum protozoa is characterized by:

- (1) flagella.
- (2) cilia.
- (3) pseudopodia.
- (4) infectious spores-like stage.

**Q2** Which of the following is **incorrect** for *Nostoc*?

- (1) Heterocystous cyanobacteria
- (2) Presence of mucilagenous sheath
- (3) Presence of flagella
- (4) Fixes atmospheric nitrogen

**Q3** The algal component of lichen is known as **A** and fungal component as **B**. Identify **A** and **B**, respectively.

- (1) A-mycobiont, B-phycobiont
- (2) A-mycobiont, B-symbiont
- (3) A-phycobiont, B-mycobiont
- (4) A-symbiont, B-phycobiont

**Q4** Cr–Jacob disease (CJD) in humans is caused by:

- (1) viruses.
- (2) prions.
- (3) viroids.
- (4) protozoans.

**Q5** Which of the following pair is **not** correctly matched?

- (1) Golden algae – Chrysophytes
- (2) *Amoeba* – Protozoan
- (3) *Claviceps* – Ascomycetes
- (4) *Albugo* – Deuteromycetes

**Q6** Match List-I with List-II.

List-I		List-II	
(A)	Amoeboid protozoan	(I)	<i>Plasmodium</i>
(B)	Ciliated protozoan	(II)	<i>Trypanosoma</i>
(C)	Sporozoan	(III)	<i>Entamoeba</i>

(D)	Flagellated protozoan	(IV)	<i>Paramoecium</i>
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Choose the **correct** answer from the options given below:

- (1) A-III, B-I, C-IV, D-II
- (2) A-IV, B-I, C-II, D-III
- (3) A-III, B-IV, C-I, D-II
- (4) A-IV, B-III, C-I, D-II

**Q7** How many statements are **correct** for the Kingdom-Monera?

- I. Includes unicellular, colonial and filamentous prokaryotes.
  - II. Bacteria reproduce only by fission.
  - III. Nutritionally monerans are only photoautotrophs and saprophytes.
  - IV. Some of the monerans can cause disease like Cholera, typhoid, tetanus etc.
- (1) All are correct.
  - (2) I, II and III are correct.
  - (3) Only I is correct.
  - (4) I and IV are correct.

**Q8** Match List-I with List-II.

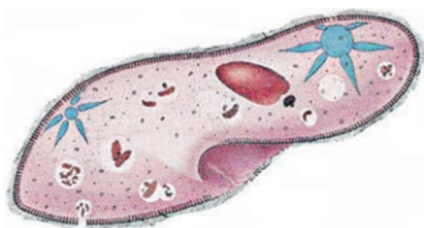
List-I		List-II	
(A)	Phycomycetes	(I)	Mycelium is branched and septate
(B)	Ascomycetes	(II)	Mycelium is aseptate and coenocytic
(C)	<i>Entamoeba</i>	(III)	Saprophytic protist
(D)	Slime mould	(IV)	Parasitic protozoan

Choose the **correct** answer from the options given below:

- (1) A-II, B-I, C-III, D-IV
- (2) A-I, B-II, C-III, D-IV
- (3) A-II, B-I, C-IV, D-III
- (4) A-I, B-II, C-IV, D-III



- Q9** Choose **correct** option for the organism given below:

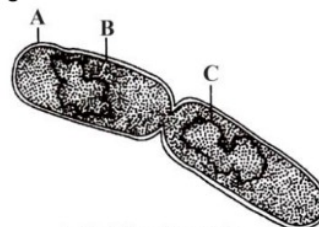


- I. Possess gullet  
 II. The food is steered into the gullet  
 III. Aquatic, passively moving organism  
 IV. Form infectious spore like stage
- (1) I and II only  
 (2) III and IV only  
 (3) II and III only  
 (4) I and IV only
- Q10** Given below are two statements:  
**Statement I:** No virus contains both RNA and DNA.  
**Statement II:** A virus is a nucleoprotein and the genetic material is infectious.  
 In the light of above statements, choose the most appropriate answer from the options given below:
- (1) Statement I is correct but Statement II is incorrect.  
 (2) Statement I is incorrect but Statement II is correct.  
 (3) Both Statement I and Statement II are correct.  
 (4) Both Statement I and Statement II are incorrect.
- Q11** Choose the **correct** option w.r.t. TMV.
- (1) Capsomeres are arranged in polyhedral form  
 (2) Possess non-infectious RNA  
 (3) Beijerinck found that they can pass through bacteria-proof filters  
 (4) Single stranded RNA is present.
- Q12** Find the **mismatched** pair.
- (1) Prions - Consists of abnormally folded protein  
 (2) Viruses - Non-cellular organisms  
 (3) Bacteriophages - Viruses that infect plants  
 (4) Viroids - Smaller than viruses

- Q13** Fusion of protoplasts between two motile or non-motile gametes is called as:

- (1) plasmogamy. (2) karyogamy.  
 (3) dikaryon. (4) dikaryophase.

- Q14** Identify **A, B** and **C** in the following diagram of dividing bacteria and select the correct option.



A dividing bacteria

- (1) A - Cell wall, B - Cell membrane, C - Heterocyst  
 (2) A - Cell wall, B - Cell membrane, C - DNA  
 (3) A - Mucilagenous sheath, B - Cell membrane, C - DNA.  
 (4) A - Cell membrane, B - Cell wall, C - DNA
- Q15** Choose **odd** one out w.r.t. dinoflagellates.
- (1) Mostly fresh water  
 (2) Stiff cellulosic plates  
 (3) Two different flagella  
 (4) Some cause red tides
- Q16** The fungi that is known as bread mould is:
- (1) *Mucor*. (2) *Rhizopus*.  
 (3) *Albugo*. (4) *Penicillium*.
- Q17** Pick the **correct** combination of statements (i-iv) regarding characteristics of some entities.
- i. Methanogens are archaebacteria that produce methane in marshy areas.  
 ii. *Nostoc* is a filamentous blue green alga which fixes atmospheric nitrogen.  
 iii. Chemosynthetic autotrophic bacteria synthesize cellulose from glucose.  
 iv. Mycoplasma lack a cell wall and can survive without oxygen.
- Choose the **correct** statements and answer from the options given below.
- (1) (ii) and (iii) only  
 (2) (i), (ii) and (iii) only  
 (3) (ii), (iii) and (iv) only  
 (4) (i), (ii) and (iv) only



**Q18** Protista is similar to plantae and different from Monera in:

- (1) mode of nutrition.
- (2) level grade of organization.
- (3) nuclear membrane.
- (4) having cell wall.

**Q19** Diatom's shell has deposition of:

- (1) silica.
- (2) lime.
- (3) magnesium carbonate.
- (4) calcium.

**Q20** Which of the following is **correct**?

- (1) Slime moulds are parasites
- (2) Protozoan lack cell wall
- (3) Dinoflagellates are non-motile
- (4) Pellicle is absent in *Euglena*

**Q21** Identify the class of fungi which shows all the following features.

- (i) Mycelium is septate and branched.
  - (ii) Large number of fungi are decomposers of litter and help in mineral cycling.
  - (iii) Reproduce only by asexual spores known as conidia.
  - (iv) Members of this class are *Trichoderma* and *Alternaria*.
- (1) Phycomycetes
  - (2) Ascomycetes
  - (3) Basidiomycetes
  - (4) Deuteromycetes

**Q22** Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:

**Assertion:** In Deuteromycetes, when the sexual forms of these fungi were discovered they were moved into classes they rightly belong to.

**Reason:** Once perfect (sexual) stages of members of deuteromycetes were discovered they were only moved to phycomycetes. In the light of the above statements, choose the **correct** answer from the options given below:

- (1) A is true but R is false.
- (2) A is false but R is true.
- (3)

Both A and R are true and R is the correct explanation of A.

(4) Both A and R are true but R is not the correct explanation of A.

**Q23** Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:

**Assertion:** Diatoms formed diatomaceous earth.

**Reason:** Diatoms are the chief producers in the ocean.

In the light of the above statements, choose the **correct** answer from the options given below:

- (1) A is true but R is false.
- (2) A is false but R is true.
- (3) Both A and R are true and R is the correct explanation of A.
- (4) Both A and R are true but R is not the correct explanation of A.

**Q24** Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:

**Assertion (A) :** Euglenoid's body is flexible.

**Reason (R):** Instead of a cell wall, Euglenoid's have a protein rich layer called pellicle.

In the light of the above statements, choose the correct answer from the options given below:

- (1) A is true but R is false.
- (2) A is false but R is true.
- (3) Both A and R are true and R is the correct explanation of A.
- (4) Both A and R are true but R is not the correct explanation of A.

**Q25** Read the following statements carefully and choose the **incorrect** one.

- (1) The recycling of several nutrients in soil like iron, sulfur etc. is done by chemosynthetic autotrophs.
- (2) Lichen is a symbiotic association between phycobiont and mycobiont, which are autotrophic and heterotrophic in nature, respectively.
- (3) Linnaeus used simple morphological features to classify plants into trees, shrubs and herbs.



- (4) The mode of nutrition of Kingdom Animalia is heterotrophic.

**Q26** Match List-I with List-II.

List-I		List-II	
A.	Plant virus	(I)	Mad cow diseases
B.	Sporozoans	(II)	Potato spindle tuber
C.	Viroids	(III)	Malaria
D.	Prions	(IV)	Tobacco mosaic disease

Choose the **correct** answer from the options given below:

- (1) A-I, B-II, C-III, D-IV  
 (2) A-II, B-I, C-IV, D-III  
 (3) A-IV, B-III, C-II, D-I  
 (4) A-II, B-III, C-IV, D-I

**Q27** Match List-I with List-II.

List-I		List-II	
A.	Edible delicacies	I.	<i>Penicillium</i>
B.	Experimental genetics	II.	<i>Neurospora</i>
C.	Source of antibiotics	III.	<i>Puccinia</i> , <i>Ustilago</i>
D.	Rust and smut disease	IV.	Morels and truffles

Choose the **correct** answer from the options given below:

- (1) A-IV, B-II, C-III, D-I  
 (2) A-III, B-I, C-II, D-IV  
 (3) A-IV, B-II, C-I, D-III  
 (4) A-IV, B-III, C-II, D-I

**Q28** Given below are two statements:

**Statement I:** Dikaryophase occurs in some fungi like ascomycetes and basidiomycetes.

**Statement II:** In ascomycetes and basidiomycetes, an intervening dikaryotic stage ( $n + n$ , i.e., two nuclei per cell) occurs after plasmogamy.

In the light of the above statements, choose the **correct** answer from the options given below:

- (1) Statement I is true but Statement II is false  
 (2) Statement I is false but Statement II is true  
 (3) Both Statement I and Statement II are true  
 (4) Both Statement I and Statement II are false

**Q29** How many of the following organism given below belong to cyanobacteria.

*Euglena*, *Chlorella*, *Anabaena*, *Chlamydomonas*,  
*Spirogyra*, *Nostoc*

- (1) Six (2) Five  
 (3) Two (4) Three

**Q30** Match List-I with List-II.

List-I		List-II	
A.	Chrysophytes	I.	<i>Paramoecium</i>
B.	Dinoflagellates	II.	<i>Euglena</i>
C.	Euglenoids	III.	<i>Gonyaulax</i>
D.	Protozoans	IV.	Diatoms

Choose the **correct** answer from the options given below:

- (1) A-I, B-III, C-II, D-IV  
 (2) A-II, B-IV, C-III, D-I  
 (3) A-IV, B-II, C-II, D-I  
 (4) A-IV, B-III, C-II, D-I



## Answer Key

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Q1 (4)  
Q2 (3)  
Q3 (3)  
Q4 (2)  
Q5 (4)  
Q6 (3)  
Q7 (4)  
Q8 (3)  
Q9 (1)  
Q10 (3)  
Q11 (4)  
Q12 (3)  
Q13 (1)  
Q14 (2)  
Q15 (1)

Q16 (2)  
Q17 (4)  
Q18 (3)  
Q19 (1)  
Q20 (2)  
Q21 (4)  
Q22 (1)  
Q23 (4)  
Q24 (3)  
Q25 (3)  
Q26 (3)  
Q27 (3)  
Q28 (3)  
Q29 (3)  
Q30 (4)



# Hints & Solutions

Note: scan the QR code to watch video solution

## Q1 Text Solution:

(4)

Sporozoans includes diverse organisms that have an infectious spore-like stage in their life cycle.

[New NCERT Class 11<sup>th</sup> Page No.16]

Video Solution:



## Q2 Text Solution:

(3)

The cyanobacteria are unicellular, colonial or filamentous, freshwater/marine or terrestrial algae. The colonies are generally surrounded by gelatinous sheath. They often form blooms in polluted water bodies. Some of these organisms can fix atmospheric nitrogen in specialised cells called heterocysts, e.g., *Nostoc* and *Anabaena*.

[New NCERT Class 11<sup>th</sup> Page No. 13]

## Q3 Text Solution:

(3)

The algal component of lichen is known as phycobiont and fungal component as mycobiont.

[New NCERT Class 11<sup>th</sup> Page No. 21]

## Q4 Text Solution:

(2)

The most notable diseases caused by prions are bovine spongiform encephalopathy (BSE) commonly called mad cow disease in cattle and its analogous variant Cr–Jacob disease (CJD) in humans.

[New NCERT Class 11<sup>th</sup> Page No. 21]

## Q5 Text Solution:

(4)

*Albugo* belongs to Phycomycetes

[New NCERT Class 11<sup>th</sup> Page No. 17]

## Q6 Text Solution:

(3)

Amoeboid protozoan	<i>Entamoeba</i>
Ciliated protozoan	<i>Paramecium</i>
Sporozoan	<i>Plasmodium</i>
Flagellated protozoan	<i>Trypanosoma</i>

[New NCERT Class 11<sup>th</sup> Page No. 15-16]

## Q7 Text Solution:

(4)

Some of the bacteria are autotrophic, i.e., they synthesise their own food from inorganic substrates. They may be photosynthetic autotrophic or chemosynthetic autotrophic.

The vast majority of bacteria are heterotrophs.

Bacteria reproduce mainly by fission.

Sometimes, under unfavourable conditions, they produce spores. They also reproduce by a sort of sexual reproduction by adopting a primitive type of DNA transfer from one bacterium to the other.

[New NCERT Class 11 Page No.13 and 14]

## Q8 Text Solution:

(3)

Phycomycetes	Mycelium is aseptate and coenocytic
Ascomycetes	Mycelium is branched and septate
<i>Entamoeba</i>	Parasitic protozoan
Slime mould	Saprophytic protist

[New NCERT Class 11<sup>th</sup> Page No. 15, 16,17, 18]

## Q9 Text Solution:

(1)

The organism which given in question is *Paramecium*. They are aquatic, actively moving organisms because of the presence of thousands of cilia. They have a cavity (gullet) that opens to the outside of the cell surface. The coordinated movement of rows of cilia causes the water laden with food to be steered into the gullet.

[New NCERT Class 11 Page No. 16]

## Q10 Text Solution:

(3)

No virus contains both RNA and DNA.

A virus is a nucleoprotein and the genetic material is infectious.



[New NCERT Class 11<sup>th</sup> Page No. 20]**Q11 Text Solution:**

(4)

TMV- Tobacco mosaic virus causes tobacco mosaic disease in tobacco plant. TMV is made up of ssRNA and is surrounded by capsid which is made up of protein units (capsomeres) and forms rod-shaped with a helical arrangement. Dmitri Ivanowsky found that TMV can pass through bacteria-proof filters. W.M. Stanley is the first who crystallised TMV and observed crystals consist largely of proteins.

[New NCERT Class 11 Page No. 20]

**Q12 Text Solution:**

(3)

Bacteriophages- Viruses that infect bacteria

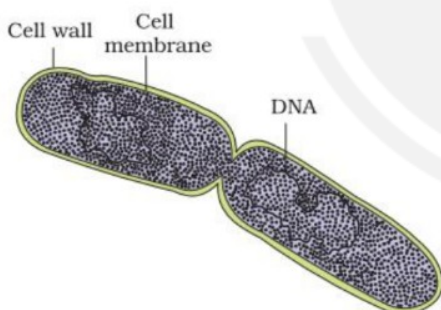
[New NCERT Class 11<sup>th</sup> Page No. 19-21]**Q13 Text Solution:**

(1)

Fusion of protoplasts between two motile or non-motile gametes is called as plasmogamy.

[New NCERT Class 11<sup>th</sup> Page No. 17]**Q14 Text Solution:**

(2)

[New NCERT Class 11<sup>th</sup> Page No. 14]**Q15 Text Solution:**

(1)

Dinoflagellates are protists that are mostly marine and photosynthetic. Stiff cellulosic plates are present outside the surface of their cell wall. Most of them have two flagella out of which one lies longitudinally and the other transversely in a furrow between the wall plates. Due to rapid multiplication of red dinoflagellates like *Gonyaulax* having red pigments, sea appear red (red tides).

[New NCERT Class 11 Page No. 15]

**Q16 Text Solution:**

(2)

*Rhizopus* is commonly called bread mould and *Albugo* is the parasitic fungi on mustard.

[New NCERT Class 11<sup>th</sup> Page No. 17]**Q17 Text Solution:**

(4)

Chemosynthetic autotrophic bacteria oxidise various inorganic substances such as nitrates, nitrites and ammonia and use the released energy for their ATP production. They play a great role in recycling nutrients like nitrogen, phosphorous, iron and sulphur.

[New NCERT Class 11 Page No. 13]

**Video Solution:****Q18 Text Solution:**

(3)

Protists are unicellular eukaryotic organisms that show similarity with plantae in having well defined nuclear membrane which is not found in members of Monera.

[New NCERT Class 11 Page No. 11]

**Q19 Text Solution:**

(1)

Diatoms are protist which possess cell wall that form two thin overlapping shells which fit together as in a soap box. The cell wall of Diatoms is embedded with silica due to which walls are indestructible.

[New NCERT Class 11 Page No. 15]

**Q20 Text Solution:**

(2)

Slime moulds are saprophytic protist that feed on dead organic matter. Protozoans are animal-like protists that lack cell wall like animal cells. Dinoflagellates possess two flagella that helps in their movement. Euglenoids lack cell wall, they



possess protein rich layer pellicle outside the cell membrane.

[New NCERT Class 11 Page No. 16]

**Q21 Text Solution:**

(4)

The class of fungi that exhibits all the mentioned characteristics—septate and branched mycelium, a significant role in decomposing litter and aiding in mineral cycling, and reproduction exclusively through asexual spores known as conidia—is the Deuteromycetes (also known as Fungi Imperfecti).

[New NCERT Class 11 Page No. 18]

**Q22 Text Solution:**

(1)

Once perfect (sexual) stages of members of deuteromycetes were discovered they were often moved to ascomycetes and basidiomycetes.

[New NCERT Class 11 Page No. 18]

**Q23 Text Solution:**

(4)

In diatoms the cell walls form two thin overlapping shells, which fit together as in a soap box. The walls are embedded with silica and thus the walls are indestructible. Thus, diatoms have left behind large amount of cell wall deposits in their habitat; this accumulation over billions of years is referred to as 'diatomaceous earth'. Being gritty this soil is used in polishing, filtration of oils and syrups. Diatoms are the chief 'producers' in the oceans.

[New NCERT Class 11 Page No. 14]

**Q24 Text Solution:**

(3)

Majority of euglenoids are fresh water organisms found in stagnant water. Instead of a cell wall, they have a protein rich layer called pellicle which makes their body flexible.

[New NCERT Class 11 Page No. 15]

**Q25 Text Solution:**

(3)

Aristotle was the earliest to attempt a more scientific basis for classification. He used simple

morphological characters to classify plants into trees, shrubs and herbs.

[New NCERT Class 11 Page No. 10]

**Video Solution:**



**Q26 Text Solution:**

(3)

Plant virus	Tobacco mosaic disease
Sporozoans	Malaria
Viroids	Potato spindle tuber
Prions	Mad cow diseases

[New NCERT Class 11<sup>th</sup> Page No.16, 20 and 21]

**Q27 Text Solution:**

(3)

List-I		List-II	
A.	Edible delicacies	I.	Morels and truffles
B.	Experimental genetics	II.	<i>Neurospora</i>
C.	Source of antibiotics	III.	<i>Penicillium</i> , <i>Streptomyces</i>
D.	Rust and smut disease	IV.	<i>Puccinia</i> , <i>Ustilago</i>

[New NCERT Class 11 Page No. 17 and 18]

**Q28 Text Solution:**

(3)

Statement I is true because the dikaryophase is a characteristic feature of fungi such as ascomycetes and basidiomycetes.

Statement II is true because in these fungi, after plasmogamy (fusion of the cytoplasm of two parent cells), an intervening dikaryotic stage occurs where each cell has two distinct nuclei ( $n + n$ ) before karyogamy (fusion of nuclei) takes place.

[New NCERT Class 11 Page No. 17]

**Q29 Text Solution:**

(3)



*Nostoc* and *Anabaena* belongs to cyanobacteria.

[New NCERT Class 11<sup>th</sup> Page No. 13]

Video Solution:



**Q30 Text Solution:**

(4)

List-I (Protista Groups)	List-II (Example)
Chrysophytes	Diatoms
Dinoflagellates	<i>Gonyaulax</i>
Euglenoids	<i>Euglena</i>
Protozoans	<i>Paramecium</i>

[New NCERT Class 11 Page No. 14, 15 and 16]



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