



Chapter

7

The Kingdom Protista (or Protoctista)

TOPIC WISE MULTIPLE CHOICE QUESTIONS INTRODUCTION, HISTORICAL PERSPECTIVE AND DIVERSITY

KIPS MCQs

- (1) All protists are:
 - (a) Unicellular
 - (b) Multicellular
 - (c) Prokaryotic
 - (d) Eukaryotic
- (2) Kingdom Protista was proposed by:
 - (a) Ernst Haeckel
 - (b) John Hogg
 - (c) Herbert Copeland
 - (d) Schwartz
- (3) Kingdom proctoctista was proposed by:
 - (a) Ernst Haeckel
 - (b) John Hogg
 - (c) Herbert Copeland
 - (d) Schwartz
- (4) Who elevated the prokaryotes to kingdom status?
 - (a) John Hogg
 - (b) Herbert Copeland
 - (c) Schwartz
 - (d) Ernst Haeckel
- (5) Most biologists regard Protista as _____ based on their origins.
 - (a) Monophyletic
 - (b) Polyphyletic
 - (c) Spontaneous
 - (d) None of these
- (6) Margulis and Schwartz have listed how many phyla to accommodate protista/protoctista:
 - (a) 17
 - (b) 27
 - (c) 37
 - (d) 47
- (7) Ernst Hackle suggested Kingdom Protista to include:
 - (a) Unicellular eukaryotes
 - (b) Multicellular autotrophs
 - (c) Bacteria and other microorganism
 - (d) Bacteria and other prokaryotes
- (8) All the eukaryotic kingdoms have their evolutionary origin from kingdom:
 - (a) Protista
 - (b) Monera
 - (c) Fungi
 - (d) Animalia
- (9) Which one of the following is incorrect about protists?
 - (a) They are defined by exclusions
 - (b) They are unicellular or may be multicellular
 - (c) They are ancestor of all other eukaryotes
 - (d) They develop from blastula

PAST PAPER MCQs

- (10) John Hogg in 1861 proposed kingdom _____ for microorganisms. (RWP 2022)
 - (a) Monera
 - (b) Protista
 - (c) Plantae
 - (d) Prokaryote

PROTOZOA "ANIMAL LIKE PROTISTS"

KIPS MCQs

- (11) Complex flagellates within the gut of termite are:
 - (a) *Trichonymphas*
 - (b) *Euglena*
 - (c) *Plasmodium*
 - (d) *Trypanosoma*

- (12) **The one which is NOT ciliate:**
 (a) *Paramecium* (b) *Vorticella*
 (c) *Stentor* (d) *Trypanosoma*
- (13) ***Pelomyxa palustris* has:**
 (a) One nucleus (b) Multiple membrane bound nuclei
 (c) No nucleus (d) May have one or many nuclei
- (14) **Many Apicomplexans spend their lives in:**
 (a) One host (b) Two hosts
 (c) Three hosts (d) Dead organic matter
- (15) **Which organelle is/are present in giant Amoeba?**
 (a) Nucleus (b) Mitochondria
 (c) Golgi bodies (d) All of these
- (16) **Parasitic protozoan that form spores at some stage in their life cycle belong to:**
 (a) Ciliates (b) Zooflagellates
 (c) Apicomplexans (d) Actinopods
- (17) **Which of the following is incorrect about *Trichonympha*?**
 (a) Single flagellum (b) Symbiotic
 (c) Zooflagellate (d) Digests wood
- (18) **Apicomplexans move by:**
 (a) Pseudopodia (b) Flagella
 (c) Cilia (d) Flexing
- (19) **Flagella are not present in:**
 (a) Radiolarian (b) *Trichonympha*
 (c) *Euglena* (d) *Trypanosoma*
- (20) **The amoebic dysentery in man is caused by:**
 (a) *Plasmodium* (b) *Entamoeba*
 (c) *Trypanosoma* (d) *Clostridium*
- (21) **Conjugation in paramecium is controlled by nucleus:**
 (a) Diploid (b) Triploid
 (c) Polyploid (d) All of these
- (22) **The vector for African sleeping sickness disease is:**
 (a) Mosquito (b) *Trypanosoma*
 (c) *Trichonympha* (d) Tsetse fly
- (23) **The sexual phase of plasmodium occurs in:**
 (a) Man (b) Mosquito
 (c) Cow (d) Snail
- (24) **Which is not related to Giant Amoeba:**
 (a) Nitrogen fixation
 (b) Methanogenic bacteria
 (c) Degradation of organic molecules
 (d) No membrane bounded organelles except nucleus
- (25) **Flexible outer covering called is pellicle present in:**
 (a) Forams (b) Actinopods
 (c) Ciliates (d) Apicomplexans
- (26) ***Euglena* is animal-like because it:**
 (a) Lacks cell wall and has chloroplasts (b) Lacks cell wall and is motile
 (c) Lacks cell wall & stores starch (d) All of these

- (27) Growth and metabolism in paramecium is controlled by _____ nucleus.
 (a) Polyploid (b) Triploid
 (c) Diploid (d) Haploid
- (28) African sleeping sickness is caused by:
 (a) Entamoeba (b) Trypanosoma
 (c) Vorticella (d) Pelomyxa
- PAST PAPER MCQS**
- (29) African sleeping sickness is caused by: (MTN 2017)
 (a) Trypanosoma (b) Entamoeba
 (c) Plasmodium (d) Stentor
- (30) Sleeping sickness is transmitted by bite of infected: (DGK 2017)
 (a) Lice (b) Tick
 (c) Tsetse fly (d) Mosquito
- (31) Trypanosoma is an example of: (MTN 2017)
 (a) Actinopods (b) Zoo flagellates
 (c) Ciliates (d) Apicomplexans
- (32) Amoeba moves and obtains food by means of: (LHR 2018)
 (a) Flagella (b) Pseudopodia
 (c) Flexing (d) Cilia
- (33) Entamoeba histolytica causes amoebic: (GRW 2018)
 (a) Cholera (b) Fever
 (c) Dysentery (d) Migraine
- (34) Trypanosoma is an example of: (LHR 2019)
 (a) Amoebae (b) Zooflagellates
 (c) Ciliates (d) Foraminifera
- (35) Amoebae moves by forming specialized cytoplasmic projection called: (GRW 2019)
 (a) Cilia (b) Pseudopodia
 (c) Flagella (d) Tube feet
- (36) The example of zooflagellates is: (DGK 2019)
 (a) Forams (b) Vorticella
 (c) Entamoeba (d) Trypanosoma
- (37) All algae except one of the following have forms with flagellated motile cells in at least one stage of their life cycle: (DGK 2019)
 (a) Euglenophyta (b) Pyrrophyta
 (c) Rhodophyta (d) Chlorophyta
- (38) Apicomplexans move by: (BWL 2019)
 (a) Cilia (b) Flagella
 (c) Flexing (d) Tube Feet
- (39) Euglenoids are thought to be closely related to: (SWL 2019)
 (a) Zooflagellates (b) Dinoflagellates
 (c) Diatoms (d) Brown algae
- (40) Test of actinopods are made up of: (FSD 2019)
 (a) Calcium (b) Silica
 (c) Sodium (d) Potassium
- (41) Pelomyxa Palustris is commonly called: (SRD 2019)
 (a) Entamoeba (b) Trypanosoma
 (c) Trichonympha (d) Giant amoeba

- (42) **Pelomyxa palustris** is an example of: (RWP 2019)
 (a) Bacterium (b) Ciliate
 (c) Algae (d) Amoeba
- (43) **Entamoeba histolytica** causes in humans: (FSD 2021)
 (a) Sleeping sickness (b) Amoebic dysentery
 (c) Malaria (d) Cholera
- (44) **The sexual process exhibited by most ciliates** is called: (MLT 2021)
 (a) Oogamy (b) Binary fission
 (c) Budding (d) Conjugation
- (45) **Pelomyxa palustris** is an example of: (SRD 2021)
 (a) Bacterium (b) Ciliate
 (c) Algae (d) Amoeba
- (46) **Test of foraminifera**, are made up of: (RWP 2021)
 (a) Silica (b) Calcium
 (c) Sulphur (d) Magnesium
- (47) **Trypanosoma** is transmitted by the bite of infected: (LHR 2021)
 (a) Mosquito (b) Dragon fly
 (c) House fly (d) Tsetse fly
- (48) **Amoeba** belongs to kingdom (DGK 2021)
 (a) Protisata (b) Plantae
 (c) Animalia (d) Fungi
- (49) **The vector in sleeping sickness** canorous fungi is: (DGK 2021)
 (a) House fly (b) Testse fly
 (c) Fruit fly (d) Butter fly
- (50) **Dinoflagellates** belongs to phylum: (BWL 2021)
 (a) Chrysophyta (b) Pyrrophyta
 (c) Rhodophyta (d) Phaeophyta
- (51) **Tests of foraminifera** are made of: (LHR 2022)
 (a) Potassium (b) Calcium
 (c) Silica (d) Iron
- (52) **The tests of Foraminiferans** have beautiful: (DGK 2022)
 (a) Geometric pattern (b) Algebra pattern
 (c) Pattern (d) Parabolic pattern
- (53) **Chalk** is formed from: (MLT 2022)
 (a) Ciliates (b) Actinopods
 (c) Foraminiferans (d) Apicomplexans

ALGAE / PLANT LIKE PROTISTS

KIPS MCQs

- (54) **The major producers of ecosystem** are:
 (a) Euglenoid (b) Dinoflagellates
 (c) Diatoms (d) Brown algae
- (55) **Euglena** is included in algae because:
 (a) It is photosynthetic having chlorophyll a & b
 (b) It can move with the help of flagella
 (c) It is unicellular
 (d) All of these

- (56) Which of the following have usually no locomotion flagella?
 (a) Pyrrophyta (b) Chrysophyta
 (c) Phaeophyta (d) Chlorophyta
- (57) All algae except _____ have form with flagellated motile cells.
 (a) Euglenophyta (b) Rhodophyta
 (c) Chrysophyta (d) Phaeophyta
- (58) The brown pigment is:
 (a) Erythrocyanin (b) Carotene
 (c) Fucoxanthin (d) Carotenoids
- (59) *Macrocystis* is an example of:
 (a) Euglenophyta (b) Pyrrophyta
 (c) Chrysophyta (d) Phaeophyta.
- (60) The one which is not green alga:
 (a) *Chondrus* (b) *Polysiphonia*
 (c) Both a & b (d) *Acetabularia*
- (61) The second largest producers in marine ecosystem:
 (a) Diatoms (b) Dinoflagellate
 (c) *Chlorella* (d) Brown algae
- (62) Algae carry out probably _____ percentage of total photosynthesis.
 (a) 50 - 60 (b) 85 - 90
 (c) 90 - 95 (d) 80 - 90
- (63) Pigment not present in Algae:
 (a) Carotenoid (b) Phycocyanin
 (c) Phycoerythrin (d) Fucoxanthin
- (64) Red tides are caused by:
 (a) Diatoms (b) *Euglena*
 (c) Kelps (d) Dinoflagellates
- (65) Algae which have shells composed of two halves that fit together like Petri dish belong to:
 (a) Brown algae (b) Diatoms
 (c) Green algae (d) Red algae
- (66) *Chlorella* is:
 (a) Multicellular (b) Acellular
 (c) Unicellular-motile (d) Unicellular non-motile
- (67) *Euglena* is a protist because:
 (a) It has flagella (b) It has cell wall
 (c) It has nucleus (d) It is unicellular autotroph
- (68) *Euglena* is animal-like because it:
 (a) Lacks cell wall and has chloroplasts (b) Lacks cell wall and is motile
 (c) Lacks cell wall & stores starch (d) All of these
- (69) The most abundant algae in aquatic ecosystem are:
 (a) Green algae (b) Diatoms
 (c) Dinoflagellates (d) Bacteria

- (70) **Ancestors of plants are:**
 (a) Dinoflagellates (b) Diatoms
 (c) Brown algae (d) Green algae
- (71) **Phycocerythrin is pigment of:**
 (a) Pyrophyta (b) Euglenophyta
 (c) Phaeophyta (d) Rhodophyta
- (72) ***Spirogyra* belongs to phylum:**
 (a) Chryscophyta (b) Pheophyta
 (c) Rhodophyta (d) Chlorophyta
- (73) **Hold fast are found in:**
 (a) Rhodophyta (b) Pheophyta
 (c) Pyrrophyta (d) Both a & b
- (74) **Which group of algae takes part in building coral reefs along with coral animals?**
 (a) Green algae (b) Red algae
 (c) Dinoflagellates (d) Brown algae
- (75) **Organism of kingdom protista resemble with plants, green algae and zoofalgellates:**
 (a) Euglena (b) Dinoflagellate
 (c) Chlorella (d) Kelps
- (76) **Which one of the following may be edible?**
 (a) *Chlorella* (b) *Kelps*
 (c) *Desmids* (d) Both a & b
- (77) ***Laminaria* is the example of:**
 (a) Green algae (b) Dinoflagellate
 (c) Red algae (d) Brown algae
- (78) **The shells of Dinoflagellates is made up of:**
 (a) Calcium carbonate (b) Silica
 (c) Cellulose (d) Chitin

PAST PAPER MCQS

- (79) **Algae which take part in building coral reefs along with coral animals are:** (FSD 2017)
 (a) Red algae (b) Brown algae
 (c) Green algae (d) Green algae
- (80) ***Ceratium* belongs to group of algae called:** (BWP 2016, 17)
 (a) Diatoms (b) Red algae
 (c) Brown Algae (d) Dinoflagellates
- (81) **Algae which have shell composed of two halves that fit together like petridish are:** (RWP 2017)
 (a) Brown algae (b) Diatom
 (c) Green Algae (d) Red Algae
- (82) **A unicellular, non-motile green alga is:** (LHR 2017)
 (a) *Volvox* (b) *Ulva*
 (c) *Chlorella* (d) *Kelps*
- (83) **The edible algae is:** (GRW 2017)
 (a) Mushroom (b) kelps
 (c) Diatoms (d) dinoflagellates

- (84) The classification of algae into phyla is largely based on the composition of: (LHR 2019)
 (a) Cell wall (b) Cell membrane
 (c) Cytoplasm (d) Pigments
- (85) Common name for pyrrophyta is: (LHR 2019)
 (a) Euglenoids (b) Diatoms
 (c) Dinoflagellates (d) Kelps
- (86) Laminaria is example of: (SWL 2019)
 (a) Red algae (b) Diatoms
 (c) Green algae (d) Brown algae
- (87) Most green algae possess cell walls with: (MLT 2019)
 (a) Cellulose (b) Chitin
 (c) Silica (d) Pectin
- (88) Phycoerythrin is found in: (MLT 2019)
 (a) Green algae (b) Red algae
 (c) Brown algae (d) Blue green algae
- (89) Kelps, the largest know algae belongs to: (MLT 2021)
 (a) Brown (b) Red
 (c) Green (d) Englenoids
- (90) Algae differ from plants in sex organs in algae are: (LHR 2021)
 (a) Multicolor (b) Acellular
 (c) Unicellular (d) None of these
- (91) Which of the following belongs to red algae? (GRW 2021)
 (a) Chondrus (b) Focus
 (c) Chlorella (d) Ulna
- (92) Which one of the following belongs to green algae? (GRW 2021)
 (a) Euglena (b) Acetabularia
 (c) Polysiphonia (d) Focus
- (93) Pinnularia belongs to phylum: (BWL 2022)
 (a) Pyrrophyta (b) Chrysophyta
 (c) Phaeophyta (d) Chlorophyta

FUNGI LIKE PROTISTS

KIPS MCQs

- (94) Slime molds are:
 (a) Autotroph (b) Absorptive heterotrophs
 (c) Ingestive heterotroph (d) Both 'b' & 'c'
- (95) Plasmodium of slime mold is:
 (a) Uninucleate (b) Multinucleate
 (c) Both a & b (d) None of these
- (96) Fungi like-protocists differ from fungi in:
 (a) Cell wall composition (b) Presence of centriole
 (c) Both a & b (d) None of these
- (97) Caused Irish potato famine in 19th century:
 (a) Physarum polycephalum (b) Puccinia
 (c) Giant Amoeba (d) Phytophthora infestans
- (98) The hyphae of oomycotes:
 (a) Aseptate (b) Septate
 (c) Dikaryotic (d) Monokaryotic

- (99) Which one is not fungi like character of oomycotes?
 (a) Have cellulose (b) Have hyphae
 (c) Absorptive heterotrophs (d) Sporangiphore and sporangia
- (100) Which of the following is an example of slime mold?
 (a) *Phytophthora infestans* (b) *Polysiphonia*
 (c) *Pelomyxa palustris* (d) *Phyarium polycephalum*

PAST PAPER MCQs

- (101) *Phytophthora infestans* belongs to the group: (SWL 2017)
 (a) Myxomycota (b) Oomycotes
 (c) Euglenoids (d) Redodiphyta
- (102) The feeding stage of a slime mold is called: (LHR 2017, SGD 2017)
 (a) Thallus (b) Hyphae
 (c) Mycelium (d) Plasmodium
- (103) Cell wall of oomycotes contain mostly: (FSD 2019)
 (a) Chitin (b) Cellulose
 (c) Glycan (d) Pectin
- (104) Which one of the given phylum's has no flagella? (SWL 2022)
 (a) Euglenophyta (b) Pyrrophyta
 (c) Rhodhyta (d) Chlorophyta

ANSWER KEY

(Topic-Wise Multiple Choice Questions)

1	d	21	a	41	d	61	b	81	b	101	b
2	a	22	d	42	d	62	a	82	c	102	d
3	b	23	b	43	b	63	d	83	b	103	b
4	b	24	a	44	d	64	d	84	c	104	c
5	b	25	c	45	d	65	b	85	c		
6	b	26	b	46	b	66	d	86	d		
7	c	27	a	47	d	67	d	87	a		
8	a	28	b	48	a	68	b	88	b		
9	d	29	a	49	b	69	b	89	a		
10	b	30	c	50	b	70	d	90	c		
11	a	31	b	51	b	71	d	91	a		
12	d	32	b	52	a	72	d	92	b		
13	b	33	c	53	c	73	d	93	b		
14	d	34	b	54	c	74	b	94	c		
15	a	35	b	55	a	75	a	95	b		
16	c	36	d	56	b	76	d	96	c		
17	a	37	c	57	b	77	c	97	d		
18	d	38	c	58	b	78	b	98	a		
19	a	39	a	59	c	79	a	99	a		
20	b	40	b	60	d	80	d	100	d		

INTRODUCTION, HISTORICAL PERSPECTIVE AND DIVERSITY**KIPS QUESTIONS**

Q:1 What features make kingdom protista difficult to characterize?

Ans: Diverse body forms, types of reproduction, modes of nutrition and lifestyles are the characteristics features of the kingdom protista which make them to characterize.

Q:2 During the course of evolutionary history how the organisms in the kingdom protista have evolved diversity?

Ans: All protists are eukaryotic and have evolved from prokaryotes. The other eukaryotic kingdoms, Plantae, Fungi, and Animalia evolved from protists in various ways.

Q:3 What are three major groups of protists?

Ans:

- (1) **Protozoa** – animal like protists
- (2) **Algae** – plant like protists
- (3) **Myxomycetes and Oomycetes** – fungi like protists.

PAST PAPERS BASED QUESTIONS

Q:4 Name four major groups of Kingdom Protista. (SGD 2017)

Q:5 Name six group of animal like protists. (SWL 2017)

Q:6 Why Protista are placed in separate kingdom? (DGK 2017)

Q:7 What are the basis of diversity Protista (LHR 2019)

Q:8 Why protists are considered as polyphyletic? Give two examples of animal like protists. (LHR 2022)

Q:9 What are basis of diversity in protista? (DGK 2022)

Q:10 Why Euglena is difficult to classify? (DGK 2022)

PROTOZOA “ANIMAL LIKE PROTISTS**KIPS QUESTIONS**

Q:11 How do Zooflagellates obtain their food?

Ans: Flagellates obtain their food

- (a) Either by ingesting living or dead organisms or
- (b) By absorbing nutrients from dead or decomposing organic matter

Q:12 How are euglenoids both plant-like as well as animal-like?

Ans: Plant-like Characters:

They are plant like in that their pigments are the same as in plants and green algae.

Animal-like Characters:

When grown in dark, they obtain their nutrients heterotrophically by ingesting organic matter. They also lack cell wall which shows that they are animal like.

Q:13 Write two characteristics of Amoeba.

Ans:

- (1) This group includes all free living freshwater, marine and soil amoebas, as well as those that are parasites of animals.
- (2) Amoebas move by forming specialized cytoplasmic projections called pseudopodia.

Q:14 What are choanoflagellates?

Ans: Choanoflagellates are sessile marine or freshwater flagellates which are attached by a stalk and their single flagellum is surrounded by delicate collar cells. They are of special interest because of their striking resemblance to collar cells in sponges.

Q:15 Which type of nuclei are present in ciliates?

Ans: There are two types of nuclei in ciliates;

- **Micro nucleus** which is diploid and is involved in conjugation.
- **Macronucleus** which is polyploid and controls cell metabolism and growth.

Q:16 What is cause and source of malaria?

Ans: Cause:

Plasmodium

Source:

Mosquito (*Anopheles*)

Q:17 What do you know about Giant Amoeba? How does Giant Amoeba get energy?

Ans: Giant Amoeba

- The Giant Amoeba (*Pelomyxa palustris*) may be the most primitive of all eukaryotic life forms.
- This species has multiple membrane-bound nuclei but none of other eukaryotic organelles.
- Giant amoebas inhabit mud at the bottom of freshwater ponds, where they contribute to the degradation.

Energy:

The giant amoebas obtain energy from methanogenic bacteria which reside inside them.

Q:18 What are *Trichonymphas*?

Ans: *Trichonymphas* are complex, specialized flagellates with many (hundreds of) flagella which live as symbionts in the guts of termites and help in the digestion of dry wood.

Q:19 What is the difference in tests of foraminifera and actinopods?

Ans: Tests of foraminifera are made of calcium where as those of actinopods are made of silica.

Q:20 What are Foraminiferans and Actinopods?

Ans: Foraminiferans:

The foraminiferans are marine protozoans, which produce shells or tests.

Test of foraminiferans are made up of calcium carbonate. Dead foraminiferans sink to the bottom of the ocean. They form grey mud. This grey mud gradually transformed into chalk. The old and dead foraminiferans are changed into limestone deposits.

Actinopods:

The actinopods are marine protozoans, which produce shells or tests.

Test of actinopods are made up of silica.

Q:21 What are limestone deposits? How are they formed?

Ans: Dead foraminiferans sink to the bottom of the ocean. They form grey mud. This grey mud gradually transformed into chalk. The old and dead foraminiferans are changed into limestone deposits.

Q:22 Write two characters of ciliates.

Ans: Ciliates are unicellular organisms.

They have flexible outer covering called pellicle.

Ciliates have two kinds of nuclei.

- Micronuclei
- Macronuclei

Locomotion in ciliates are take place by cilia.

PAST PAPERS BASED QUESTIONS

- Q:23** How ciliates differ from other protozoans? (LHR 2017)
- Q:24** What are choanoflagellates? (LHR 2017)
- Q:25** Write down two characteristics of apicomplexans. (LHR 2017)
- Q:26** What do you know about giant amoeba? (LHR 2017)
- Q:27** What is giant amoeba? (LHR 2017)
- Q:28** Write down two characteristics of dinoflagellates. (LHR 2017)
- Q:29** Define apicomplexans. (GRW 2017)
- Q:30** Differentiate between macronucleus in ciliates. (FSD 2017)
- Q:31** What are apicomplexans? (FSD 2017)
- Q:32** Differentiate between foraminiferans and Actinopods. (SGD 2017)
- Q:33** What are dinoflagellates? Give their ecological significance. (SGD 2017)
- Q:34** Write down the main features of Ciliates. (MTN 2017)
- Q:35** What are Apicomplexans? Give example (MTN 2017)
- Q:36** What are Trichonymphas? Give their role. (MTN 2017)
- Q:37** What is Giant Amoeba? How does it obtain energy? (MTN 2017)
- Q:38** Give composition of test/shell of Foraminiferans and Actinopodes. (DGK 2017)
- Q:39** Compare micronucleus & macronucleus of ciliates. (DGK 2017)
- Q:40** What are ciliates? (DGK 2017)
- Q:41** What is the role of contractile vacuole in fresh water ciliates? (DGK 2017)
- Q:42** Give Ecological importance of Dinoflagellates. (BWP 2017)
- Q:43** What is Trypanosoma? What disease does it cause? (BWP 2017)
- Q:44** How is chalk formed? (RWP 2017)
- Q:45** What is the evolutionary significance of Euglenoids? (RWP 2017)
- Q:46** What is zooflagellates? (RWP 2017)
- Q:47** What are foraminifera's? (RWP 2017)
- Q:48** How ciliates differ from other protozoans? (LHR 2017)
- Q:49** What are choanoflagellates? (LHR 2017)
- Q:50** Write down two characteristics of apicomplexans. (LHR 2017)
- Q:51** What do you know about giant amoeba? (LHR 2017)
- Q:52** What is giant amoeba? (LHR 2017)

- Q:53** Write down two characteristics of dinoflagellates. (LHR 2017)
- Q:54** What are the apicomplexans? (LHR 2017, 2018)
- Q:55** Write down evolutionary significance of euglenoids. (LHR 2018)
- Q:56** How flagellates obtain food? (LHR 2018)
- Q:57** Write down the ecological role of dinoflagellates. (LHR 2018)
- Q:58** What are zooflagellates? Give one example. (GRW 2018)
- Q:59** Why euglenoids have special evolutionary significance? (GRW 2018)
- Q:60** Differentiate between zooflagellates and dinoflagellates. (LHR 2019)
- Q:61** Why euglena is difficult to classify? (LHR 2019)
- Q:62** What are trichonymphs? (LHR 2019)
- Q:63** Write two characteristics of dinoflagellates. (LHR 2019)
- Q:64** Give importance of foraminiferans. (GRW 2019)
- Q:65** How ciliates differ from protozoa? (FSD 2019)
- Q:66** What are foraminiferans? (FSD 2019)
- Q:67** Differentiate between Actinopods and Foraminiferans. (SRG 2019)
- Q:68** Write symptoms of Malaria and their cause. (SRG 2019)
- Q:69** Name one Zooflagellate that lives as symbiont and other as parasite causing disease. (SRG 2019)
- Q:70** What is Trypanosoma? What disease does it cause? (RWP 2019)
- Q:71** What are choanoflagellates? To which cells of sponges they resemble? (SWL 2019)
- Q:72** Give four characteristics of dinoflagellates with examples. (SWL 2019)
- Q:73** What are apicomplexans? How do they move? (SWL 2019)
- Q:74** Describe evolutionary significance of englenoids. (SWL 2019)
- Q:75** Write something about giant amoeba. (MLT 2019)
- Q:76** What are Dinoflagellates? Give their significance. (MLT 2019)
- Q:77** What are actinopods? (MLT 2019)
- Q:78** Describe evolutionary significance of euglenoids. (MLT 2019)
- Q:79** Name parasitic amoeba. What is the disease caused by it? (DGK 2019)
- Q:80** What are Apicomplexans? Give example. (DGK 2019)
- Q:81** What are Choanoflagellates? (BWL 2019)
- Q:82** How are Limestone deposits formed? (BWL 2019)
- Q:83** What is Conjugation? (BWL 2019)
- Q:84** What are giant amoeba? (FSD 2019)
- Q:85** Name a parasitic amoeba. What disease does it cause? (SWL 2021)
- Q:86** Write two examples of Zooflagellates. (SWL 2021)
- Q:87** Write to characteristics of amoebas (MLT 2021)
- Q:88** What are amoebae? Give example. (LHR 2021)
- Q:89** Write two characters of Zooflagellates. (LHR 2021)
- Q:90** Write the function of micronucleus and macronucleus in ciliates. (LHR 2021)
- Q:91** Write two characters of englenoids. (LHR 2021)

- Q:92 How dose conjugation occur ciliates? (LHR 2021)
- Q:93 What are choanoflagellates? Why they are of special interest? (GRW 2021)
- Q:94 Give two characteristics of Euglenoids. (GRW 2021)
- Q:95 Write a short note on choanoflagellate. (MLT 2021)
- Q:96 Differentiate between micronucleus and macronucleus in ciliates. (MLT 2021)
- Q:97 What are choanoflagellate? (DGK 2021, MTN 2017, SWL 2016, LHR 2015)
- Q:98 What is meant by pellicle? (DGK 2021)
- Q:99 What are englenoids? (DGK 2021)
- Q:100 Define Zooflagellates. (DGK 2021)
- Q:101 What is conjugation? (DGK 2021)
- Q:102 Define Pellicle. (BWL 2021, DGK 2016)
- Q:103 What is Trichonympha? (BWL 2021)
- Q:104 Differentiate between Actinopods and Foraminiferans. (FSD 2021)
- Q:105 Write symptoms of Malaria and their cause. (FSD 2021)
- Q:106 Name one Zooflagellate that lives as symbiont and other as parasite causing disease. (FSD 2021)
- Q:107 What is Trypanosoma? What disease does it cause? (SRG 2021)
- Q:108 Differentiate between foraminifera and actinopoda. (RWP 2021)
- Q:109 How foraminiferous have poles in their shells? BY which way shell is transformed into chalk (LHR 2022)
- Q:110 What do you know about amoeba? (LHR 2022)
- Q:111 Write down the symptoms of malaria. (DGK 2022)
- Q:112 Why choanoflagellates are of special interest for biologists and also give an example of parasitic flagellates? (MLT 2022)
- Q:113 How are limestone deposits formed? (SWL 2022)
- Q:114 From where the giant ameba obtain energy (FSD 2022)
- Q:115 How ciliates differs from protozoans? (FSD 2022)
- Q:116 Name the Parasitic flagellates and disease caused by it and how it is transmitted. (FSD 2022)
- Q:117 What are Actinopods? Give example. (SRG 2022)
- Q:118 Compare Foraminiferans and actinopods. (GRW 2022, RWP 2022)

ALGAE "PLANT LIKE PROTISTS"

KIPS QUESTIONS

Q:119 How do algae differ from plants?

Ans:

Algae	Plants
They are thallophytes	They are embryophytes.
Their sex organs are unicellular and the zygote is not protected by plant body.	Their sex organs are multicellular and zygote grows into a multicellular embryo that is protected by parental tissue.

Q:120 Write three structural components of kelps.

- (1) Holdfast (Root-like structures)
- (2) Stipe (Stem-like structure)
- (3) Blade (Leaf-like structure)

Q:121 Why green algae are considered as ancestors of plants?

Ans: They show following reasons for which we consider them as ancestors of plants;

- (1) RNA sequencing indicates that green algae and the plants form a monophyletic lineage.
- (2) Most green algae possess cell walls with cellulose. Green algae have pigments, energy reserve products, and cell walls that are identical to those of plants.
- (3) Green algae are photosynthetic, with chlorophyll a, chlorophyll b and carotenoids present in the chloroplasts.
- (4) The main energy reserves are in the form of starch.

Q:122 Give importance of algae.

Ans:

- (1) Some algae such as kelps are edible and may be used to overcome shortage of food in the world.
- (2) Marine algae are also source of many useful substances like algin, agar, carrageenan, and antiseptics.
- (3) Algae are major producers of the aquatic ecosystem, thus they play a basic role in food chains, providing food and oxygen to other organisms.

Q:123 What is a red tide?

Ans: Dinoflagellates show occasional population explosion or bloom. These blooms give orange, red or brown colour to water, so they are also known as red tides.

PAST PAPERS BASED QUESTIONS

- Q:124** What is chlorella? Give its importance. (LHR 2017)
- Q:125** How algae differ from plants? (LHR 2017)
- Q:126** What are kelps? (GRW 2017)
- Q:127** What is chlorella and give its importance? (SWL 2017)
- Q:128** What are diatoms? Give their importance. (SWL 2017)
- Q:129** What are Kelps? Give their importance. (MTN 2017)
- Q:130** How Algae differ from Plants? (MTN 2017)
- Q:131** Give the importance of Chlorella. (MTN 2017)
- Q:132** What are pigments found in Algae? (DGK 2017)
- Q:133** Write down importance of Algae. (DGK 2017)
- Q:134** Write down two benefits of Algae. (BWP 2017)
- Q:135** What is the importance of Chlorella? (RWP 2017)
- Q:136** Give importance of algae. (RWP 2017)
- Q:137** What is chlorella? Give its importance. (LHR 2017)
- Q:138** How algae differ from plants? (LHR 2017)
- Q:139** Write four important features of algae. (LHR 2018)
- Q:140** What are diatoms? Write their importance. (SWL 2017, LHR 2018)
- Q:141** What are the red tides? How they are formed? (LHR 2018)
- Q:142** Write down the importance of algae. (LHR 2018)
- Q:143** Why diatoms are important in aquatic food chains? (GRW 2018)
- Q:144** Write features of chrysophyta. (LHR 2019)
- Q:145** How green algae and plants are identical? (LHR 2019)
- Q:146** How algae are different from plants? (MLT 2019)
- Q:147** Write importance of Algae. (MLT 2019)
- Q:148** Give habitat of Algae. (BWL 2019)
- Q:149** How Algae differ from plants? (GRW 2019)
- Q:150** What are red tides? (GRW 2019)

- Q:151 Why it is generally accepted that plants arose from ancestral green algae? (SRG 2019)
- Q:152 Write down two important characteristics of diatoms. (RWP 2019)
- Q:153 How algae differ from plants? (RWP 2019)
- Q:154 Give two examples each of Red algae and Green algae. (RWP 2019, GRW 2019)
- Q:155 What are kelps? (LHR 2021)
- Q:156 Give characteristics of red algae. (LHR 2021)
- Q:157 How algae differ from plants? (GRW 2021)
- Q:158 How green algae and plants form a monophyletic lineage? (GRW 2021)
- Q:159 Mention structural features of red algae. (GRW 2021)
- Q:160 Write down four importance of algae. (GRW 2021)
- Q:161 Give two characters of green algae similar to green plants. (SWL 2021)
- Q:162 What are Euglenoids? Give their evolutionary significance. (SWL 2021)
- Q:163 Give important of algae. (DGK 2021)
- Q:164 How algae differ from plants. (DGK 2021)
- Q:165 Which type of Photosynthetic Pigments are present in plant like protists? (BWL 2021)
- Q:166 Give resemblances of Green Algae with plants. (BWL 2021)
- Q:167 What is Kelp? (FSD 2019)
- Q:168 Why it is generally accepted that plants arose from ancestral green algae? (FSD 2021)
- Q:169 Write down two important characteristics of diatoms. (SRG 2021)
- Q:170 How algae differ from plants? (SRG 2021)
- Q:171 Give two examples each of Red algae and Green algae. (SRG 2021)
- Q:172 How algae differ from plants? (RWP 2021)
- Q:173 What is chlorella? Give its important. (RWP 2021)
- Q:174 How red algae are differentiated from green algae? (LHR 2022)
- Q:175 Why body of Algae is called thallus? (DGK 2022)
- Q:176 Name the pigments which are found in algae (MLT 2022)
- Q:177 Write a note on brown algae. (MLT 2022)
- Q:178 Write two similar and two different characters between algae and green plants. (SWL 2022)
- Q:179 Give two examples each of red algae and green algae. (SWL 2022)
- Q:180 How red tides are formed? (FSD 2022)
- Q:181 Why euglenodids are classified in plant as well as animal kingdoms? (FSD 2022)
- Q:182 How algae differ from plants? (FSD 2022)
- Q:183 Define thallus. (FSD 2022, RWP 2017, GRW 2018, GRW 2021, MLT 2021)
- Q:184 Why diatoms are considered as major producer of an aquatic ecosystem? (RWP 2022)
- Q:185 Write down two characteristics of euglenodids. (RWP 2022)
- Q:186 Write important of algae. (SRG 2022)
- Q:187 How do red algae play important role in marine environment? (SRG 2022)
- Q:188 Why do red algae regard protists kingdom as Polycyclic group? (SRG 2022)
- Q:189 Why diatoms are considered as major producer of a an aquatic ecosystem? (GRW 2022)
- Q:190 Write down two characteristics of euglenodids. (GRW 2022)

FUNGI LIKE PROTISTS

KEY QUESTIONS

Q:191 How do fungi-like protists differ from fungi?

Ans:

Fungi-like Protists	Fungi
They have centrioles.	Centrioles are absent
Cell wall contains cellulose.	Cell wall contains chitin.

Q:192 What features distinguish oomycotes from fungi?

Ans:

- (1) Their cell walls contain cellulose instead of chitin as in fungi.
- (2) They contain centrioles which are absent in fungi.

Q:193 What is *Phytophthora infestans*?

Ans: *Phytophthora infestans* are parasitic oomycotes which cause a disease named late blight of potatoes. In 1840's, mass destruction from this has caused famine in Ireland due to which many people starved to death or migrated.

PAST PAPERS BASED QUESTIONS

Q:194 Give characteristics of oomycotes. (GRW 2017)

Q:195 What are characteristics of fungus like Protists? (DGK 2017)

Q:196 How do slime molds behave during unfavorable conditions? (DGK 2017)

Q:197 Give important characters of water molds. (FSD 2017)

Q:198 Differentiate between fungi and fungus like protists. (SGD 2017, SWL 2017)

Q:199 Define slime molds. (LHR 2021)

Q:200 Give characteristics of oomycotes. (GRW 2017)

Q:201 Why slime molds are included in kingdom protoctista? (LHR 2019)

Q:202 How slime molds are different from fungi? (MLT 2019)

Q:203 Why fungus like protists are not fungi? (DGK 2019)

Q:204 What is phytophthora infestans? (DGK 2019)

Q:205 Write two characteristics of slime molds (MLT 2021)

Q:206 How fungus like protists differ from fungi? (MLT 2021)

Q:207 What was the cause of Irish potato famine? (MLT 2021)

Q:208 Why physarum polycephalum is model organism? (MLT 2021)

Q:209 What is the significance of physarum polycephalum? (DGK 2021)

Q:210 Give two differences between fungus like protists and fungi. (RWP 2021)

Q:211 In which way pathogenic oomycotes caused huge loss. Explain it with example. (MLT 2022)

Q:212 What is the name of oomycotes which played infamous role in human history? Comment why it is so notorious? (SWL 2022)

Q:213 Why fungus like protists are not fungi? (FSD 2022)

Q:214 Write down two characteristics of oomycotes. (RWP 2022, GRW 2022)