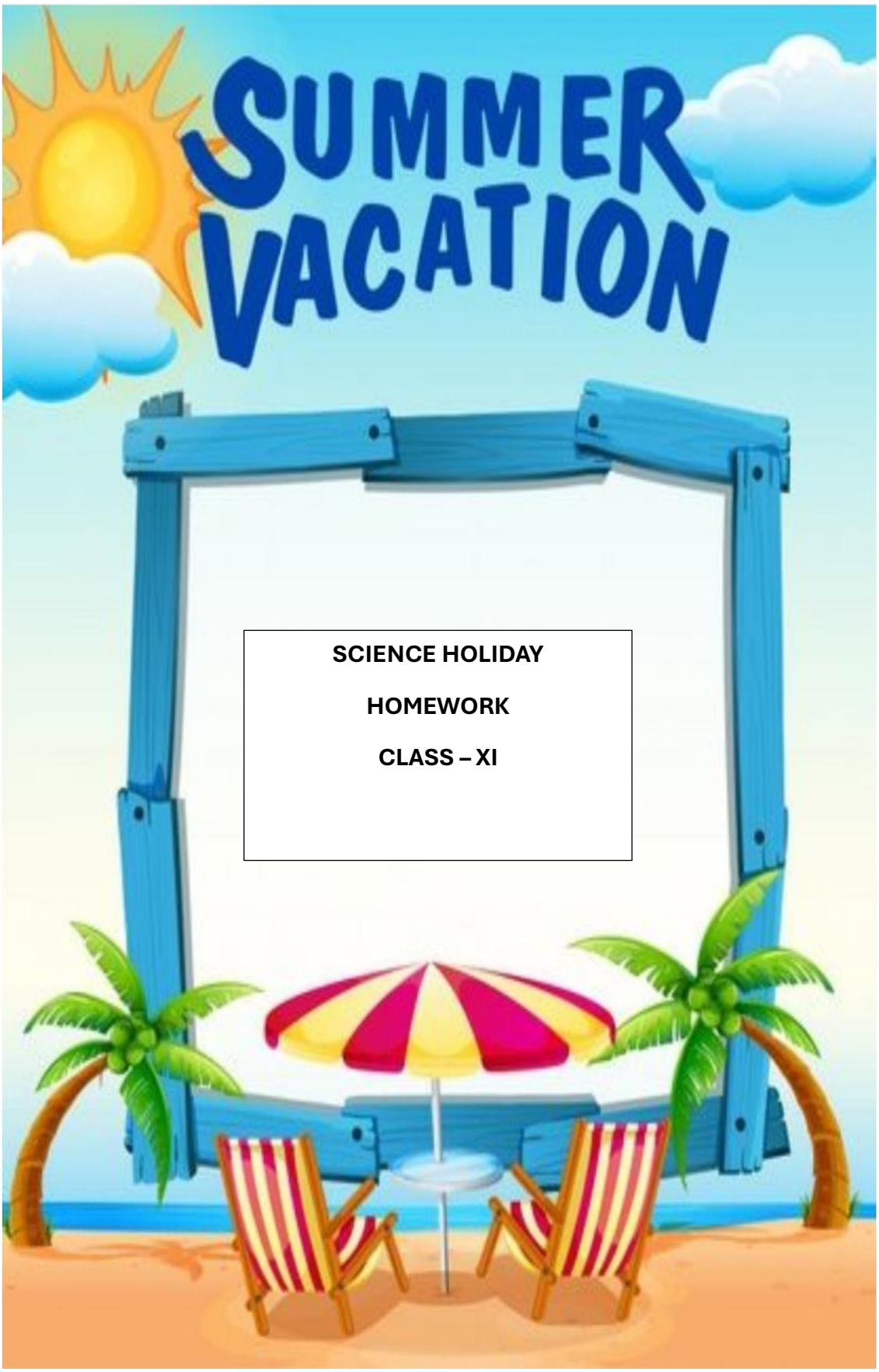


SCIENCE HOLIDAY

HOMEWORK

CLASS – XI

Dear Parents

We wish you and your child a very happy summer holidays . It's time to enjoy and create a bond with family, friends and relatives. To utilize this time in the most constructive way we have prepared Holiday Homework for the students on the principle of 'learning by doing' for their holistic development.

So here we start.....

Morning Blessings

Help your child inculcate good habits like doing ''Surya Namaskar'' and encourage him/her to wish all elders in the morning. If possible, visit a temple or any other religious place of your choice.

Physical Development

- Take the child with you for morning/evening walk.
- Play different games like hide and seek, football, ludo, chess, snakes and ladders, carrom board etc. with your child.

Language Development

- Encourage your child to converse in English.
- Choose any 1 object from your surroundings every day. Let the child speak few lines on it.

Being Good

- Help your child inculcate good habits like doing 'Surya Pranam' & encourage him / her to greet all elders in the morning.
- Help your child to use 4 magical words : PLEASE, SORRY, THANK YOU, EXCUSE ME as the part of basics of good manners.
- Encourage your child to listen.
- Gently care for animals. Encourage your child to be empathetic towards animals.
- Involve your child to sow a plant in a pot and give water. Give knowledge about plants and trees. Explain to them that they are an integral part of their growing
- Have at least two meals together with your children. Teach them the importance and hard work of the farmer and ask them not to waste their food.
- Let them take their own plates after every meal . Children learn dignity of labour from such activities.

Health and Hygiene

"Healthy mind resides in a healthy body." So start your day early and set a routine even during vacations. In addition you and your little one can spend some quality time playing, cycling, swimming to keep yourself fit and healthy. Encourage your child to take care of personal hygiene by inculcating the habits like washing hands, practicing yoga, eating healthy food etc.

General instructions:-

1. Attempt your work neatly.
2. Use Biology register to write answers.

Revise all the explained chapters and learn question and answers.

1 Name one gymnosperm in which the male and female strobili/cones are borne (*a*) on the same plant and (*b*) on different plants, respectively.

2 Differentiate between chrysophytes and dinoflagellates.

3 Why are Deuteromycetes commonly known as imperfect fungi? Mention two characteristics of mycelium of such fungi.

4 (*a*) Why are viruses called obligate intracellular parasites?
(*b*) Name a virus that has single-stranded RNA as genetic material.

5 Museums and Zoological parks (Zoos) are both taxonomical aids; yet, how do they differ from each other?

6 Write a short account on herbarium as a taxonomic aid.

7 Highlight the criteria considered for fivekingdom system of classification.

8 Mention the ploidy of the following:
(*i*) protonemal cell of a moss
(*ii*) primary endosperm nucleus in dicot
(*iii*) leaf cell of a moss
(*iv*) prothallus cell of a fern
(*v*) gemma cell in Marchantia
(*vi*) meristem cell of monocot
(*vii*) ovum of a liverwort and
(*viii*) zygote of a fern

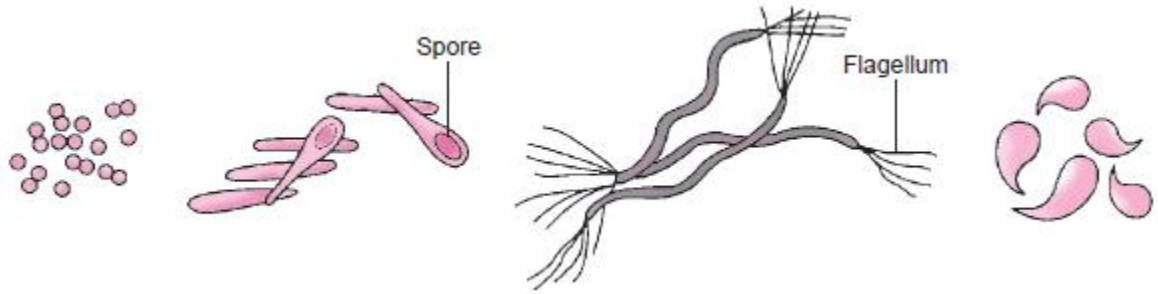
9Define and understand the following terms:

(*i*) Phylum	(*ii*) Class
(*iii*) Family	(*iv*) Order
(*v*) Genus	

10 Binomial Nomenclature was given by
(a) Aristotle
(b) Linnaeus
(c) John Ray
(d) Huxley

11 Which of the following is the correct sequence in the order of increasing complexity?
(a) Molecules → Tissues → Community → Population
(b) Cells → Tissues → Community → Population
(c) Tissues → Organisms → Population → Community
(d) Molecules →Tissues → Community →Cells

12



Identify the correct names of the different bacteria according to their shapes shown in the figure.
(a) A . Cocci, B. Bacilli, C. Spirillum, D. Vibrio
(b) A . Bacilli, B. Cocci, C. Spirillum, D. Vibrio
(c) A . Vibrio, B. Cocci, C. Spirillum, D. Vibrio
(d) A . Bacilli, B. Vibrio, C. Spirillum, D. Cocci

13 **Match the columns and select the correct option.**

Column I	Column II
A. Phycomycetes	1. Sac fungi
B. Ascomycetes	2. Algal fungi
C. Basidiomycetes	3. Fungi imperfecti
D. Deuteromycetes	4. Club fungi

(a) A – 2, B – 1, C – 4, D – 3
(b) A – 3, B – 4, C – 1, D – 2
(c) A – 3, B – 4, C – 1, D – 2
(d) A – 2, B – 3, C – 4, D – 1

14 Identify the group of organisms, the following statements decribe and refer to.
A. There is no cell wall, but they have a protein–rich layer, called pellicle, which makes their body flexible.

B. They have two flagella, one very short and one long.
C. They are photosynthetic in the presence of sunlight and are predators in the absence of light.
D. They have pigments similar to higher plants.
(a) Dinoflagellates (b) Euglenoids
(c) Chrysophytes (d) Protozoans

15 Phycoerythrin, chlorophyll a and chlorophyll d are characteristics of
(a) Chlorophyceae
(b) Rhodophyceae
(c) Phaeophyceae
(d) Cyanophyceae

16 Pteridophytes differ from bryophytes in having
(a) archegonia
(b) vascular tissues
(c) motile antherozoids
(d) alternation of generations

17 The embryo sac of an Angiosperm is made up of
(a) 8 cells
(b) 7 cells and 8 nuclei
(c) 8 nuclei
(d) 7 cells and 7 nuclei

18 A plant shows thallus level of organization. It shows rhizoids and is haploid. It needs water to complete its life cycle because the male gametes are motile. Identify the group to which it belongs to
(a) Pteridophytes
(b) Gymnosperms
(c) Monocots
(d) Bryophytes

19Match Column I with Column II.

Column I	Column II
(A) *Lycopsida*	1. *Psilotum*
(B) *Pteropsida*	2. *Equisetum*
(C) *Sphenopsida*	3. *Selaginella*
(D) *Psilopsida*	4. Adiantum
	5. *Sphagnum*

20Consider the following statements regarding the major pigments and stored food in different classes of algae and select the correct statement(s)?

A. In Chlorophyceae, the major pigments are chlorophyll a and d and the stored food material is starch

B. In Phaeophyceae, the major pigments are chlorophyll a and b and laminarin is the stored food material

C. In Rhodophyceae, the major pigments are chlorophyll a and d and phycoerythrin and floridean starch is the stored food

(a) A only (b) A and B

(c) C only (d) B and C

21Which of the following are not present in the bryophytes? Read the statements and select the correct option.

A. Ciliated antherozoids

B. An independent dominant gametophytic phase

C. Vascular tissues, i.e., xylem and phloem

D. An independent dominant sporophyte

E. Sex organs, Antheridia and Archegonia

(a) A, B and D (b) B and E

(c) B, C and D (d) C and D

22 A fern differs from a moss in having

(a) an independent gametophyte

(b) vascular tissues

(c) an independent sporophyte

(d) both (b) and (c)

23 Which among the following is not a genus?

(a) Solanum

(b) indica

(c) Felis

(d) Homo

24 Which of the following sets has all genera belonging to the same class?

(a) Porphyra, Ectocarpus, Polysiphonia

(b) Volvox, Spirogyra, Chlamydomonas

(c) Spirogyra, Laminaria, Sargassum

(d) Fucus, Dictyota, Gracilarea

25Genus represents

(a) An individual plant or animal

(b) A collection of plants or animals

(c) A group of closely related species of plants or animals

(d) None of these

26The taxonomic unit 'Phylum' in the classification of animals is equivalent to which hierarchical level in classification of plants?
(a) Class
(b) Order
(c) Division
(d) Family

27
Binomial nomenclature means that every organism has
(a) one scientific name and one vernacular (local) name.
(b) one scientific name consisting of a generic name and a specific epithet.
(c) one scientific name given by two scientists.
(d) one Latin or Latinised name and a scientific name.

28 The genus Triticum belongs to the family
A included in the class B.
(a) A. Anacardiaceae,
B. Monocotyledonae
(b) A. Poaceae,
B. Monocotyledonae
(c) A. Anacardiaceae,
B. Dicotyledonae
(d) A. Poaceae,
B. Dicotyledonae

29Which of the following combinations is correct for mango?
(a) Genus-Mangifera, Family-Anacardiaceae, Order-Sapindales, Class-Dicotyledonae
(b) Genus-Mangifera, Family-Poaceae,
Order-Poales, Class-Dicotyledonae
(c) Genus-Mangifera, Family-Poaceae,
Order-Poales, Class-Monocotyledonae
(d) Genus-Mangifera, Family-Solanaceae,
Order-Sapindales, Class-Dicotyledonae

30 Match the following Columns and select the correct option:

Column I (Common Name)	Column II (Taxonomic Category/order)
A. Housefly	1. Primata
B. Wheat	2. Carnivora
C. Tiger	3. Polemoniales
D. Solanum	4. Diptera
	5. Poales

(a) A – 4, B – 3, C – 2, D – 2
(b) A – 4, B – 5, C – 2, D – 3
(c) A – 2, B – 5, C – 4, D – 3
(d) A – 5, B – 4, C – 3, D – 2

31 **Match Column I with Column II and select the correct option.**

Column I		Column II	
A.	Genus	1.	Insecta
B.	Phylum	2.	Solanaceae
C.	Class	3.	Mangifera
D.	Family	4.	Aschelminthes

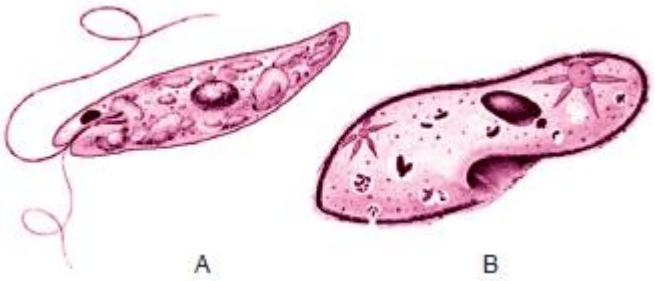
(a) A – 4, B – 3, C – 1, D – 2
(b) A – 3, B – 4, C – 1, D – 2
(c) A – 3, B – 1, C – 4, D – 2
(d) A – 2, B – 1, C – 4, D – 3

32Observe the diagrams and answer the questions that follow:

(a) Identify the two fungi shown above.
(b) Name the respective class, which each of them belongs to and give one more example for each of these two classes.
(c) Write two differences between their sexual spores.

33

Observe the diagrams and answer the questions that follow:

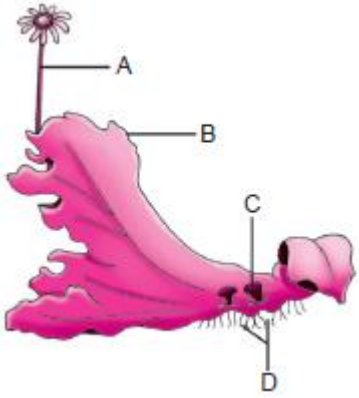


Two organisms of Kingdom Protista are shown above.

(a) Identify the organisms (A) and (B) and assign them to their respective phyla.
(b) Write any two differences between them.
(c) How does B obtain its food?

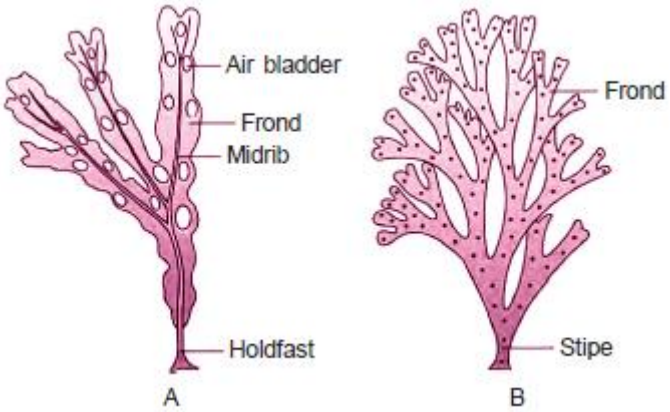
34

Observe the diagram and answer the questions that follow:



(a) Identify the plant given above and name the division, it belongs to.
(b) Label the parts A, B, C and D marked on it.
(c) Give a brief description of part C.

35



Two members of a class of algae are shown above. Observe the figures and answer the following questions:

(a) Identify the two algae A and B.

(b) Name (i) the class, which both of them belong to and (ii) the pigment that gives them the characteristic colour.

(c) Mention the forms of their stored food.

(d) Mention the function of

(i) holdfast and (ii) stipe, labelled in the figure.