DCP FOR CHAPTER-1: REPRODUCTION IN PLANTS.

Number of period	Sub-Topics.
1	Introduction, modes of reproduction in plants, asexual reproduction, Binary fission, Budding, Fragmentation, Sporeformation, Vegetative reproduction.
2	Reproduction by stem, Reproduction by Leaf, Reproduction by Root, Advantages of vegetative reproduction, Disadvantages of vegetative reproduction.
3	Artificial vegetative propagation- Cutting, Layering, Grafting, Micro-propagation.
4	Sexual reproduction in plants - Calyx, Corolla, Androecium, Gynoecium, Ovules.
5	Pollination, Self-pollination, Cross pollination, Agents of pollination. Characteristics of insect, wind and water pollinated flowers, Artificial pollination fertilization double fertilisation.
6	Recapitulation of the chapter

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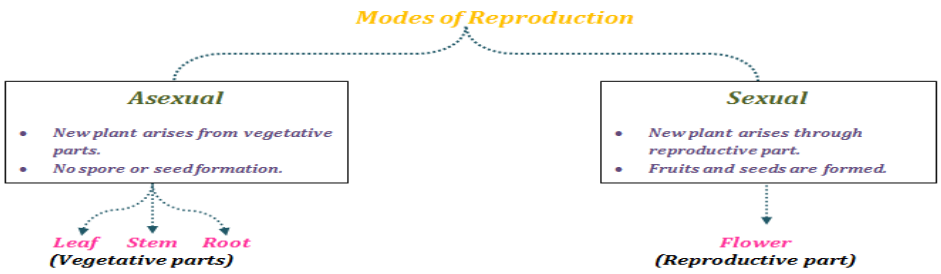
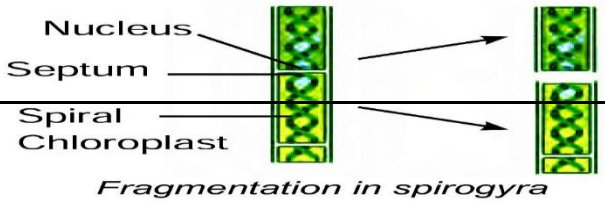
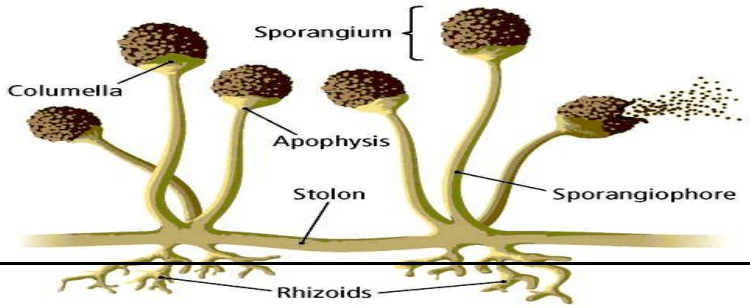
ODM Teachers' Note

Class	X	**Subject**	BIOLOGY
Period.	1	**Chapter-2**	REPRODUCTION IN PLANTS.
Sub- Concepts	Introduction, modes of reproduction in plants, asexual reproduction, Binary fission, Budding, Fragmentation, Sporeformation, Vegetative reproduction.		
TeachingAid To be used	Smart Class, PowerPoint presentation, classroom objects, charts.		
Learning Outcome	On completion of this topic, students will be able to • Investigate how reproduction in occurs in plants. • Understand the role of reproduction in plants. • Distinguish between sexual and asexual mode of reproduction. • Analyze how do fragmentation and spore formation occur. • Demonstrate how the process of budding occurs in yeast.		
Sl. No	**Step Wise (What to be done)**		
1. Introduction, modes of	➢ Reproduction ➢ Modes of reproduction ➢ Importance of reproduction		

reproduction in plants	
2. asexual reproduction, Binary fission, Budding	➢ Asexual reproduction ➢ Fission- binary fission and multiple fission. ➢ Budding in yeast and hydra.
3. Fragmentation, Sporeformation	 *Fragmentation in spirogyra*
4. Vegetative reproduction	
5.Home Assignment	1.Exercise Shorrt Question No-1 andLong Answer Question No- 1,9 2.Why are budding, fragmentation and regeneration all considered as asexual types of reproduction? With neat diagrams explain the process of regeneration in *Planaria.*

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Class	X	**Subject**	BIOLOGY
Period.	2	**Chapter-2**	REPRODUCTION IN PLANTS.
Sub- Concepts	Reproduction by stem, Reproduction by Leaf, Reproduction by Root, Advantages of vegetative reproduction, Disadvantages of vegetative reproduction.		
TeachingAid To be used	Smart Class, PowerPoint presentation, classroom objects, charts.		
Recapitulation.	Testing previous knowledge – 1.Define reproduction. **2.** Name two organisms that show asexual reproduction. **3.** How does Hydra reproduce? Name another organism that reproduces by a similar method.		
Learning Outcome	On completion of this topic, students will be able to • Investigate how vegetative reproduction in occurs in plants. • Analyze the advantages of vegetative reproduction. • Explain the vegetative reproduction in root ,stem and leaf.		
Sl. No	**Step Wise (What to be done)**		
1. Reproduction by stem	➢ Vegetative reproduction in potato ➢ Onion ➢ Ginger ➢ garlic		
2. Reproduction by Leaf	➢ Vegetative reproduction in leaf		
3. Reproduction by Root	➢ Vegetative reproduction in sweet potato ➢ Carrot		
4. Advantages and disadvantages of vegetative reproduction	➢ Advantages and disadvantages of vegetative reproduction.		
5.Home Assignment	1.Exercise Long Answer Question No-3 2.Some plants are propagated only by vegetative propagation ?why? 3. What is 'vegetative propagation'? Write two examples where it is used. State two reasons of practicing vegetative propagation for giving same types of plants		

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Class	X	**Subject**	BIOLOGY
Period.	3	**Chapter-2**	REPRODUCTION IN PLANTS.
Sub-Concepts	Artificial vegetative propagation- Cutting, Layering, Grafting, Micro-propagation		
Teaching AidTo be used	Smart Class, PowerPoint presentation, classroom objects, charts.		
Recapitulation	Testing previous knowledge – 1What is vegetative reproduction? 2.Briefly explain why a gardener prefers to grow certain plants vegetatively? 3..What is advantages of sexual reproduction over asexual reproduction? **4.** Differentiate between natural and artificial vegetative propagation.		
Learning Outcome	On completion of this topic, students will be able to • Define artificial vegetative propagation • Explain the process of grafting • Analyses the process of cutting and layering.		
Sl. No	**Step Wise (What to be done)**		
1. Artificial vegetative propagation	➢ Cutting ➢ Layering ➢ grafting		
2. Cutting,	➢ stem cutting- ➢ rose ➢ china rose ➢ sugar cane		

3. Layering	➢ layering in ➢ mint ➢ rose ➢ jasmine
4. Grafting, Micro-propagation	➢ grafting in ➢ rose ➢ mango ➢ guava ➢ tissue culture.
5.Home Assignment .	1.Exercise short Question No-4 and LongAnswer Question No- 7 2.Name two plants which reproduce through spores. **3.** Why is regeneration considered a method of reproduction? **4.** Which vegetative part is used in the propagation of Bryophyllum and mint?

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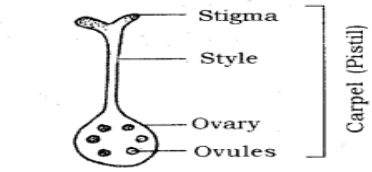
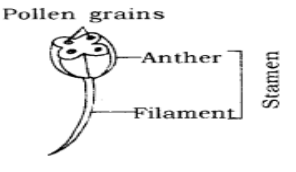
Class	X	**Subject**	BIOLOGY.
Period.	4	**Chapter-2**	REPRODUCTION IN PLANTS.
Sub-Concepts	Sexual reproduction in plants - Calyx, Corolla, Androecium, Gynoecium, Ovules.		
Teaching Aid To be used	Smart Class, PowerPoint presentation, classroom objects, charts		
Recapitulation.	Testing previous knowledge – 1.Name some plants where layering is used. **2.** Which technique would you use for propagating improved varieties of mango and rose? **2.** Name various types of asexual reproduction		
Learning Outcome.	On completion of this topic, students will be able to • Identify and explain the process of sexual reproduction in plants. • Define the male and female sex organ of a flower. • List the unisexual and bisexual flower.		

Sl. No	Step Wise (What to be done)
1. Calyx	**Sepals-**Sepals are green structures that protect the inner parts when the flower is in bud stage.
2. Corolla,	**Petals**-Petals are colourful and attract the insects for pollination.
3. Androecium	 Female reproductive organ of a plant (Carpel)  Male reproductive organ of a plant (Stamen)
4. Gynoecium, Ovules.	**Carpel-**The carpel is the female reproductive part and produces ovules that contain female gametes.
5.Home Assignment	1.Exercise Question No- 4 and LongAnswer Question No-6 2.Draw and label the parts of a flower. **3.** What are the functions of the following parts of a flower?

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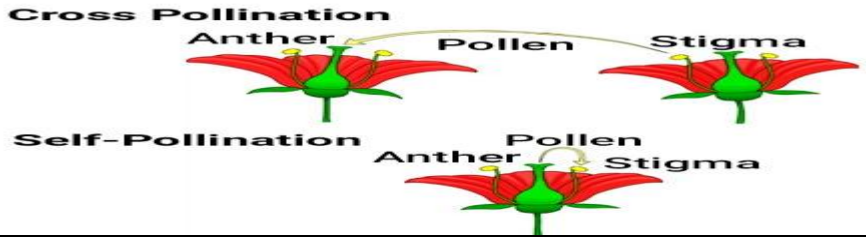
Class	X	**Subject**	BIOLOGY.
Period.	5	**Chapter-2**	REPRODUCTION IN PLANTS.
Sub-Concepts	Pollination, Self-pollination, Cross pollination, Agents of pollination. Characteristics of insect, wind and water pollinated flowers, Artificial pollination ,fertilization, double fertilisation.		
Teaching Aid To be used	Smart Class, PowerPoint presentation, classroom objects, charts		
Recapitulation.	Testing previous knowledge – 1.What are the functions of the following parts of a flower? **2.** What is pollination? **3.** What are the steps involved in fertilization and formation of seeds?		
Learning Outcome.	On completion of this topic, students will be able to • Identify and explain what is pollination? • Define self pollination and cross pollination. • List the pollen agents which helps in pollination. • Explain fertilization and how double fertilization occurs in plants. • Explain post fertilization events in plants.		

Sl. No	Step Wise (What to be done)
1. Pollination, Self-pollination Cross pollination	➢ Pollination 
2. fertilization	➢ Pollen grains ➢ Male nuclei ➢ Egg ➢ Female nuclei ➢ Syngamy
3. double-fertilisation.	➢ Zygote ➢ Embryo ➢ micropyle ➢ Triple fusion ➢ Endosperm
4. post fertilisation and Artificial pollination ,	➢ Events of post fertilization ➢ Breeding ➢ Cross breeding ➢ High-yielding varieties of rice, wheat maize.
5.Home Assignment	1.Exercise short Question No- 2, andLong Answer Question No-8,5 **2.What happens to the pollen which falls on a suitable stigma? Explain.** **3.** Why cannot fertilisation take place in flowers if pollination does not occur?