Yash college of Education, Rurkee (Rohtak)

School list for B.Ed School Internship programme 2016-18

B.Ed 2nd Year

Sr. No.	School Name	Roll No.	Total students	Teacher Incharge
1	D.R.M. Sr. Sec. School, Rurkee	1701, 02, 03, 04, 05, 06, 07, 08, 09, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	20	Ms. Nisha
2	CSM High School, Mungan	1722, 24, 25, 26, 27, 28, 29, 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 44, 46,	20	Ms. Pinki
3	Baba Nagar Das Sr. Sec. School, Kiloi	1747, 48, 50, 52, 53, 54, 55, 57, 58, 59, 60, 62, 63, 64, 67, 68, 69, 70, 71, 72, 74	21	Ms. Monika
4	H.R. M. Sr. Sec. School, Kiloi	1775, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 93, 94, 95, 96	21	Mr. Ashok

Schedule: 24.11.17 to 15.03.18

Name & Roll No.	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4
1. A. Bera	✓	✓		✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		·	✓	✓
2. R. Jana	✓	✓		✓		✓	✓	✓	✓		✓	✓	·	✓	✓	✓		✓	·	✓
3. A. Bera	✓	✓		✓		·	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	·
4. A. Otha	✓	✓		✓		✓	✓	✓	✓		✓	✓	·	✓	✓	✓		✓	✓	✓
5. R. Nayak	✓	✓		✓		✓	✓	·	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓
6. N. Nayak	✓	✓		✓		✓	✓	·	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓
7. S. Patra	✓	✓		✓		✓	✓	·	✓		✓	✓	✓	✓	✓	✓		·	✓	✓
8. P. Rana	✓	✓		✓		✓	✓	✓	·		✓	✓	✓	✓	✓	✓		·	✓	✓
9. T. Rana	✓	✓		✓		✓	✓	✓	·		·	✓	✓	✓	✓	✓		·	✓	✓
10. M. Jana	·	✓		✓		✓	·	✓	·		✓	✓	·	✓	✓	✓		·	✓	✓
11. S. Das	·	·		✓		✓	·	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓
12. R. Nayak	✓	✓		✓		·	·	✓	✓		✓	·	✓	✓	✓	✓		✓	✓	✓
13. N. Giri	✓	✓		·		✓	✓	✓	·		✓	✓	✓	✓	✓	✓		✓	✓	✓
14. A. Giri	·	·		·		✓	✓	✓	·		✓	✓	✓	✓	✓	✓		✓	✓	✓
15. A. Bera	✓	✓		·		✓	✓	✓	✓		·	✓	·	✓	✓	✓		·	✓	✓
16. S. Rana	✓	·		✓		✓	✓	✓	✓		·	✓	✓	✓	✓	✓		✓	·	✓
17. T. Rana	✓	✓		✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	·	✓
18. M. Das	✓	✓		✓		·	✓	✓	✓		·	✓	✓	·	✓	✓		✓	·	✓
19. S. Jana	·	✓		✓		·	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	·	✓
20. B. Jana	✓	·		✓		✓	✓	✓	✓		✓	·	✓	✓	✓	✓		✓	✓	✓
21. A. Roy	·	✓		✓		✓	✓	✓	✓		✓	·	✓	✓	✓	✓		✓	✓	✓
22. P. Das	✓	✓		✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓
23. M. Maity	✓	✓		✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓
24. S. Maity	✓	✓		·		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓	✓
25. M. Chuan	·	·		·		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	·	·
26. S. Adhikari	·	✓		✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	·		✓	✓	✓
27. K. Bera	·	✓		✓		✓	·	✓	✓		✓	✓	✓	·	✓	✓		✓	·	✓

Name & Roll No.	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
28. S. Das	✓		✓		✓	✓	✓	✓	·	✓		✓	✓	✓	✓	✓	✓		✓
29. D. Pati	✓		✓		✓	✓	·	✓	·	✓		✓	·	✓	✓	✓	✓		✓
30. P. Mahapatra	✓		✓		·	·	✓	✓	·	✓		✓	·	✓	✓	✓	✓		✓
31. P. Jana	·		✓		·	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		·
32. S. Roy	✓		✓		·	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		·
33. R. Roy	✓		✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		·
34. M. Jha	·		✓		✓	·	✓	✓	·	✓		✓	✓	✓	✓	✓	✓		·
35. G. Jha	✓		✓		✓	·	✓	✓	·	✓		·	✓	✓	✓	✓	✓		✓
36. E. Maity	✓		·		✓	✓	✓	✓	✓	✓		·	✓	✓	✓	✓	✓		✓
37. B. Bera	✓		·		✓	✓	✓	✓	✓	✓		·	✓	✓	✓	·	✓		✓
38. A. Acharya	✓		✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	·	✓		✓
39. B. Adhikari	✓		✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	·	✓		✓
40. T. Jana	✓		✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓
41. M. Maity	✓		✓		✓	✓	✓	✓	✓	✓		✓	·	✓	✓	✓	✓		✓
42. M. Roy	✓		✓		✓	✓	✓	✓	✓	✓		✓	·	✓	·	✓	✓		✓
43. D. Pradhan	✓		✓		✓	·	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓
44. P. Mondal	✓		✓		✓	·	✓	✓	✓	✓		✓	✓	✓	·	✓	✓		✓
45. S. Mondal	✓		✓		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓
46. S. Guiri	✓		✓		✓	✓	✓	✓	✓	✓		·	✓	✓	·	·	✓		·
47. S. Paira	✓		✓		✓	✓	✓	✓	·	✓		·	✓	✓	✓	✓	✓		·
48. B. Acharya	✓		✓		✓	✓	✓	✓	·	·		✓	✓	✓	✓	✓	✓		✓
49. T. Roy	·		✓		✓	✓	✓	✓	✓	·		✓	✓	✓	·	✓	✓		✓
50. S. Roy	✓		✓		✓	✓	✓	✓	✓	·		✓	✓	✓	·	✓	✓		✓

Signature of Pupil Teach

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	3. Food chain	16.01.15		
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MICRO TEACHING
LESSONS

LESSON No. 01

Date 08.12.14 | Duration of the period 35 mins

Pupil Teacher's Name Piyali ojha | Pupil Teacher's Roll No. 9560155

Class VIII | Average Age of the pupils 15 years

Subject L.Sc. | Topic Various parts of flowers

Skill of Introducing lesson.

Pupil teacher's activity	Pupils activities
What are the parts of flower	Sepale, petals. Androecium and gynocoeium.
What are sepale collectively called as ?	Calyx
What are petals collectively called as ?	Corolla
What is the female reproductive organ ?	Gynocoeium.
What is the male reproductive organ ?	Androcoeium.
Why corolla is coloured so beautiful ? - to attract the insects for pollination.	No response.

What is pollination?

process of transfer of pollen grains from stames to stigma of corpel.

What happen after the process of pollination?

Fertilization.

How many types of pollination are there?

No response.

It is transfer of pollen grains from the anther of a flower to the stigma of the same flower or to the stigma of another flower born on the same plants.

It involves the transfer of pollens from flower to one plant to the stigma of flower of another plant of the same species.

What is the end product of fertilization? — zygote.

Sl. No.	Components	Rating Scale
1	Relevancy	0 1 2 3 4 5 (6)
		0 1 2 3 4 (5) 6
2	Briefness	0 1 2 3 4 (5) 6
3	Specificness	0 1 2 3 4 (5) 6
4	Clarity	0 1 2 3 4 (5) 6
5	Grammatic clarity	0 1 2 3 4 (5) 6

LESSON No. 02

Date 9.12.14 | Duration of the period 35 mins

Pupil Teacher's Name Piyali Saha | Pupil Teacher's Roll No. 9560155

Class IX | Average Age of the pupils 15 years

Subject L.S.C. | Topic Living & Non Living things

Skill of Explaining

Pupil Teacher activity	Student activity
There are two Kinds of things in our ecosystem — living and Non living things.	
1. Those things which can move from one place to another place. 2. Which show growth and development 3. Which have a definite life-span. 4. Which can reproduce and multiply	Students listen carefully and note down the characters of living things.
1. Which can not move from one place to another by themselves. 2. Which do not show growth and development. 3. Which do not have definite life span. 4. Which do not multiply and reproduce.	Students listen carefully.

Nutrition :

The process of intake and utilization of nutrients by an organism is called as Nutrition.

On the basis of nutrition, how many parts organism's divide? What are they ?

Organisms are divided into three parts.
1. Herbivorous.
2. Carnivorous.
3. Omnivorous.

Herbivorous :

Those organisms which obtain their nutrition from green plants.

Carnivorous :

Those organism's which obtain their nutrition from flesh of other animals.

Omnivorous :

Those organism's which obtain their nutrition from green plants as well as flesh of other animals.

Give example of-
1. Herbivorous
2. Carnivorous
3. Omnivorous

Cow, Goat, Sheep.
Lion, Tiger
Human beings, Cat, and dog.

Sl. No.	Components	Rating Scale
	Using appropriate begining & concluding statements.	0 1 2 3 4 (5) 6
	Using explaining links	0 1 2 3 4 (5) 6
	Covering essentional points.	0 1 2 3 4 (5) 6
	Testing pupils understanding	0 1 2 3 4 (5) 6

LESSON No. 03

Date 10.12.14 | Duration of the period 35 mins

Pupil Teacher's Name Piyali Ojha | Pupil Teacher's Roll No. 9560155

Class IX | Average Age of the pupils 15 years

Subject L.Sc. | Topic Organic evolution

Skill of → questioning

pupil teacher's activity	pupil's activity
It refers to gradual changes from one form to another on living being with time is organic evolution.	Students listen carefully
Which performs different functions in different species but have same basic structure. eg. The forelimb in a frog, lizard bird and humans show similarity in basic structure but perform entirely different functions.	
What is the function of fore limbs of frog, a lizard, a bird and a human being.	forelimb of a frog act as a shock absorver. In lizard Used for creeping & in birds for flying & in human beings for grasping.

Organs having different fundamental structure and embryonic origin but perform same function.
eg. Wings of bird and insect.
An insect wing is a fold of membrane supported by few muscles but the wings of a bird are formed of limb bones covered with flesh, skin and feathers.

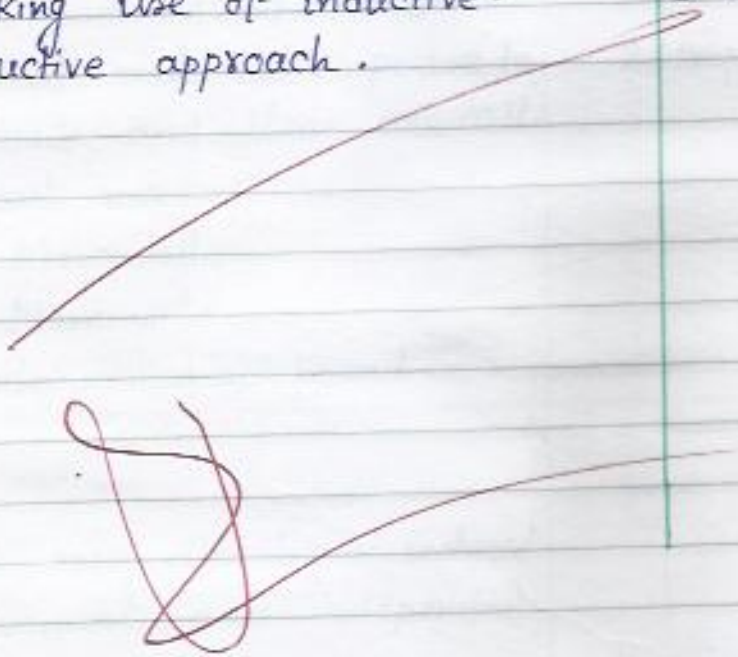
Students listen carefully

The organs which are present in reduced form and are useless to the possesser but are homologous to the fully developed functional organs in the ancestor or related form.
eg. Vermiform appendix in human beings.

What is vermiform appendix?
It is a large structure in herbivorous mammals & senses for the digestion of cellulose contents of the food by bacterial action. In human beings the habit of talking soft & cooked food has reduced the need for bacterial digestion, so it become reduced & useless

It is a blind at the end of large intestine.

Sl. No	Component	Rating scale
1.	Formulating relevant examples.	0 1 2 3 4 (5) 6
2.	Formulating simple examples.	0 1 2 3 4 (5) 6
3.	Formulating interesting examples.	0 1 2 3 4 (5) 6
4.	Use of appropriate media for examples.	0 1 2 3 (4) 5 6
5.	Making use of inductive-deductive approach.	0 1 2 (3) 4 5 6



LESSON No. 04

Date 11.12.14 | Duration of the period 35 minutes

Pupil Teacher's Name Piyali otha | Pupil Teacher's Roll No. 956015 5

Class VIII | Average Age of the pupils 15 years

Subject L.Sc. | Topic Movement of Plant

Skill of— Stimulus Variation

pupil's teacher's activity	pupils activity
Plants do not have numerous functional system, muscles and sense organs like animals, still they can react to various environmental stimule such as light, gravity water etc. Plants show two different types of mut. in response to various stimule and these are called as plant movements: 1. Nastic Movements. 2. Tropic Movements. P.T. Writes on black board.	Students listen carefully about various plant muts. 1. Nastic movements. 2. Tropic movements.
These are non-directional induced varial movement and independent on growth. eg. In Mimosa pudica.	
What happens when we touch the leaves of the Touch-me-not plant with our fingers.	It leaves immediately fold up and also drops down.

The directional movement of specific part of a plant in response to external stimuli are called tropic movement.

Movement of plant part in response to light [P.T. shows through diagram]

Movement of a plant part in response to gravity.

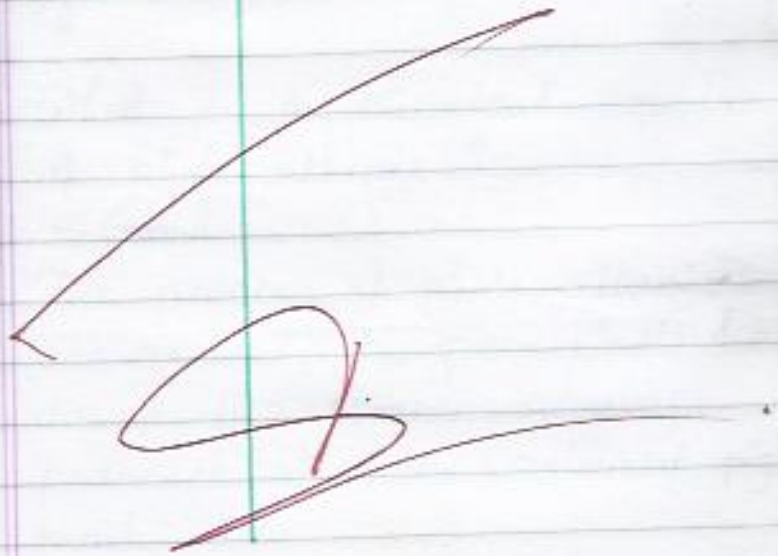
Movement of a plant part in response to chemical.

Movement of a plant part in response to water.

Students listen carefully and note down about various tropic movements.

- phototropism
- Geotropism
- Chemotropism
- Hydrotropism

Sl. No	Components	Rating Scale
1	Movement	0 1 2 3 4 5 (6)
2	Gestures	0 1 2 3 4 (5) 6
3	Change in voice	0 1 2 3 4 (5) 6
4	Focussing	0 1 2 3 4 (5) 6
5	Change in interaction style.	0 1 2 3 4 (5) 6
6	Aural - Visual switching pausing	0 1 2 3 4 (5) 6
		0 1 2 3 4 (5) 6



LESSON No. 05

Date 12.12.14 | Duration of the period 35 minutes

Pupil Teacher's Name Piyali ojha | Pupil Teacher's Roll No. 9560155

Class IX | Average Age of the pupils 15 years

Subject L.Sc. | Topic Photosynthesis

Skill of Illustration.

pupil's teachers activity	pupils activity.
Photosynthesis is a process by which the green plants synthesize complex carbohydrate & evolve molecular O_2 from simple inorganic substance like CO_2 & H_2O with the help of light energy.	
What is a chemical equation of photosynthesis ? — Good.	$6CO_2 + 12H_2O \xrightarrow[\text{chloro phil}]{\text{light}} C_6H_{12}O_6 + 6H_2O + 6O_2$
The process of photosynthesis occurs only in green plants because this process requires presence of green coloured pigment.	
What is name of that green coloured pigment. — Correct.	Chlorophyll.
What is site of photosynthesis +ve response by head movement.	Leaves.

Photosynthesis does not occur in all the cells of a green plant. It occurs only in those cells which process the green coloured 'PLASTIDS' called CHLOROPLAST. Chloroplast are not found in upper and lower epidermis of green leaf except in guard cells of STOMATA They occur in mesophyll cells that ocupy the space between upper and lower epidermis.

Students listen carefully

What are factors affective photosynthesis ?

- Temperature.
- Water
- Carbon-di-oxide (CO_2)
- Light.

No response

S.No.	Components	Rating Scale
1.	Use of- acceptable sentences	0 1 2 3 4 (5) 6
2.	Favour of student suggestion	0 1 2 3 4 5 (6)
3.	Encouragement of students.	0 1 2 3 4 (5) 6
4.	Use of gesture and non-verbal clues.	0 1 2 3 4 (5) 6
5.	Correct use of- reinforcement	0 1 2 3 4 (5) 6
6.	Writing answers of student on B.B.	0 1 2 3 4 (5) 6
7.	Use of- reinforcement for everyone.	0 1 2 3 (4) (5) 6

MEGA TEACHING LESSONS

LESSON No. 01

Date 13.12.15 | Duration of the period 35 minutes

Pupil Teacher's Name Piyali ojha | Pupil Teacher's Roll No. 9560155

Class IX | Average Age of the pupils 15 years

Subject L.Sc. | Topic Plant movement

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the student will be able to :-

- Able to recall plant movements.
- Able to recognize plant movements
- Able to see relationship between plant and animal movement.
- Synthesis the example of plant movements.
- Classify plant movement.
- Able to give their views about plant movement.

INSTRUCTIONAL AIDS :-

P.K Testing

Pupil teacher activity	Student activity
What is stimulus?	Changes in enviroment to which the organism react and respond.
What are photohormone?	Plant hormones are called phytohormones.
What is co-ordination?	No response.

Announcement of Topic : Students today we shall st about various plant movements.

Presentation

sub matter	Pupil activity	Student Activities
Co-ordination in plants.	The working together of various organs (parts) of the body of an org./plant in a proper manner to produce proper rxn is Co-ordination control & Co-ordin in plants is not as elaborate as animals. plants do not have various system like animals still they can respond and react to various stimuli such as light gravity water etc. plant & co-ordinate.	Student listen carefully

Teaching Point	Pupil's teacher Activities	Student's Activities
	Their responses against environmental stimuli by using hormones.	
plant movement	are brought about by some definite external & internal stimuli by using phytohormones. According to nature of stimulus the movements may be spontaneous (automatic) or induced (Paratonic).	Students note down of plant movements.
induced plant movement Nastic Tropic	Classification of plant movements Nastic: Their are non directional induced variation muts that occur due to turgor changes. 1) Seismonastic muts: Such movement occur in response to touch. There are best seen in touch me not (chui-mui).	Students note down the type of induced plant muts.
Example of chui-mui	Mimosapudica (Sensitive plant) What happen when we touch the leaves of a chui-mui. After sometime the leaves regain their original state.	Its leaves immediately fold up and down.
	2. Nyctinastic movement: The muts involving the diurnal variation in the position of flowers are called nyctinastic muts. These involve photonastic & thermonastic muts.	Students listen carefully.

		Student's activities
Explanation of photonastic movements.	Photonastic movement: If the diurnal variation in the position of plant parts are caused by light stimulus such non-directional movements.	Students listen carefully.
Explanation tropic movement	Tropic movements: Dorsechonal movements of specific part of plant in response to ext. stimuli are tropic movements. -If the movement of plant part is towards the stimulus it is termed as the tropism. -If the movements of plant is away from stimulus it is -ve tropism. Types of tropism:	Students note down about tropic movements.
Various types of tropism & phototropism 1. phototropism	1. Phototropism: It is directional movement of the plant part in response to light stimulus. eg. Stem/shoot of growing plant moves towards light and thus show +ve photo tropism.	Students note down the types of tropism.

2. Geotropism

3. Chemotropism

4. Hydrotropism

2. Geotropism: Directional movement of plant part in response to gravity.

What kind of geotropism does stem/shoot show? Why?

3. Chemotropism: Directional mvt of plant part in response to chemical stimulus.

4. Hydrotropism: Directional mvt of plant part in response to water.

What is +ve hydrotropism?
- If plant part moves towards water stimulus.

What is -ve hydrotropism?

Student's Activities

-ve, because it grow against gravity.

No response

If plant part moves away from water stimulus.

Recapitulation :-

1) What is nastic movement ?
2. What is tropic movement ?
3. How many kind of tropic movements are there ?

Home work :-

Written on black board.

question: Study and learn various types of tropic movements.

question: What are nastic movements. Explain with examples ?

LESSON No. 02

Date 14.12.14 | Duration of the period 35 mins.

Pupil Teacher's Name Pijali ojha | Pupil Teacher's Roll No 956055

Class IX | Average Age of the pupils 15 years

Subject L.Sc. | Topic Natural Resources

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the Student will be able to :-

- ~~Able to~~ recognize natural resources.
- ~~Able~~ Define various natural resources.
- Classify & explain various types of natural resources.
- Give examples of natural resources.
- Differentiate b/w natural and man-made resources.

INSTRUCTIONAL AIDS :-

General :- Chalk, BlackBoard, Duster, pointer.

Specific :- Ray diagram on the chart.

PREVIOUS KNOWLEDGE ASSUMED :- Pupilsteacher

Assure the student must know about differnte b/w Natural resources and man made resources and their uses.

P.K. Testing

Pupil teacher activity	Student activity
What are natural resources ?	Those responses which are obtained directly from the nature.
Give examples.	
Can you classify natural resources.	forests, wild life No response.
Announcement of topic:	Students today we shall study about various plant movements.

Presentation

Subject matter	Pupil teacher activity	Student's activity	Activities
Natural resources	Resource is a source of supply or suport held in reserve for - Eg - Wood off from forest is used for making furnitures, fibres obtain from cotton are used to wearing cloth, fossil fuel, river lakes, air etc. Definition: A resource is any means of supplying a natural held in reserve which can	Students note down about natural resources	

be transferred into more valuable and useful item.

Student's Activities

Types of Resources:

Natural and Man made resources

Natural and Man made National resources are directly obtained from nature eg. forest, wild life, minerals, air water etc.

Man made resources are manufactured by man eg: plastic, pesticides etc.

Students listen carefully

Types of Natural resources:

Natural resources are obtained from earth & its environment.

There are classify in 3 ways:

Classification of Natural resources

A. Based on chemical Nature
   i. Inorganic resources.
   ii. Mixed resources.
   iii. Organic resources

B. Based on abundance and availability:

I. Inexhaustable resources:

There occur in such abundance that they are not likely to be exhausted by human use - air, clay, sand.

Students note down the classification of Natural resources

Students Activities

II. Exhaustable resources: They are likely to be finished due to continuous use eg. minerals, fossil fuel. These are of two types –
a. Renewable resources
b. Non-renewable resources

Renewable resources

Renewable: These resources can maintain themselves by natural recycling and reproduction or can be replenished if managed widely. They include forests, crops domestic animals etc.

Non renewable resources

Non renewable: They get exhausted with use because they are not recycled. They include metalic mineral and fossil fuels, coal natural gas, petrol.

c. Based on their distribution:
1. National resources: These are confined to national boundaries eg. minerals land & forest.

Students note down distribution classification.

Student's Activities

II. Multinational resources: These are shared by more than one nation (certain river), lakes.

III. International resources: Shared Uniformly by all the national. eg. air, sunlight.

Need for Conservation of natural resources

Conservation of natural resources for sustainable development: Continuous increase in human population and unending desire of man has resulted in increasing demand for natural resources. Utilization and exploration of resources at such fast rate are definately causing their depletion. So nature has only limited amount of them in resources.

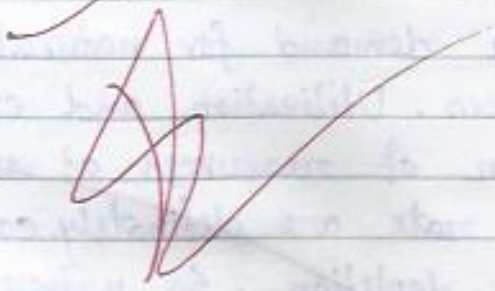
Students note down importance of Conservation

Recapitulation

1. What are natural resources?
2. What are inexhaustible resources?
3. What are renewable & non renewable resources?
4. What conservation of natural resources is necessary

Home Work

1. What are natural resources? Classify them & give example of each type?



LESSON No. 03

Date 16.01.15 | Duration of the period 35 minutes

Pupil Teacher's Name Piyali ojha | Pupil Teacher's Roll No. 9560155

Class IX | Average Age of the pupils 15 years

Subject L.Sc. | Topic Food chain

Instructional objectives :—

After going through the lesson, students will be able to :—

- Recall about the ecosystem and its components.
- Recognize about different trophic level of food chain.
- Classify different ecosystem.
- Generalize the term used in Ecosystem (i.e Autotrophs, Producers, Carnivores herbivores etc.)
- Synthesise example of different types of ecosystem.
- Distinguish b/w food chain & food web.

INSTRUCTIONAL AIDS :—

General :— Chalk, Duster, Black Board.

Specific :— Chart of food chain.

PREVIOUS KNOWLEDGE ASSUMED :—

It is expected the Students should have knowledge about ecosystem.

P.K. Testing

Pupil teacher activity	Student activity
What are primary consumers	The green plants (autotrop are primary consumers.
What are secondary consumers	The flesh eating animals secondary consumers.
Define food chain	No response.

Announcement of Topic : Well students today we study about food chain.

Presentation

Sub matter	Pupil activity	Student activity
Food chain Primary, secondary & Tertiary consumers	In any green ecosystem all living organisms are linked in a systematic chain with respect to their made of manufacturing food habits. The interaction among various components of env. involves grow of energy from one components to another. During photosynthesis producers capture solar energy and convert it into chemical energy. These are eaten up by	Students note down about food chain

plant eaters i.e. herbivores. These are further eaten up by fresh eating animals carnivores which in turn may be eaten up by large — carnivores.

Students activities.

Definition: This sequential interlinking or organisms involving transfer of energy from producers, through series of organisms with repeated — eating and being eaten called food chain.

Students note down the definition of food chain

The distinct sequential steps in the food chain where transfer of energy occurs are referred to as different tropic level eg. green plant from 1st tropic level. The plant eaters also called primary it consumers level belong to 2nd tropic level. The 1st consumers level & flesh eaters (carnivorous) also called secondary consumers represent 3rd consumer level the 2° consumer level & so on.

Students note down definition of tropic level

Characteristics of food chain:

1) It involves a nutritive interaction between living organisms (biotic components) of an ecosystem.

Students listen carefully.

2) A food chain is always straight and proceeds in organic progressive straight line.

3) In a food chain. there is unidirectional grow of energy from sun to producers and subsequentially to series of different types of consumers.

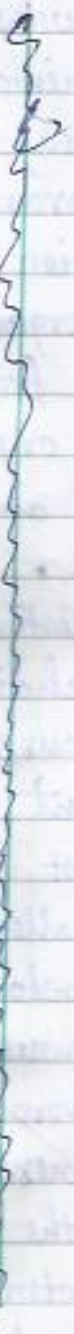
4. Usually these are 3 or 4 tropic levels in a food chain. There may be maximum 5 tropic levels.

5. Some organisms are omnivorus eg. Gran deer, — Tiger.

Food web:

It is a network of food chain which become interconnected at various tropic levels so as to form a number of feeding connection amongst different organisms of a biotic community.

Students note down definition of food web.

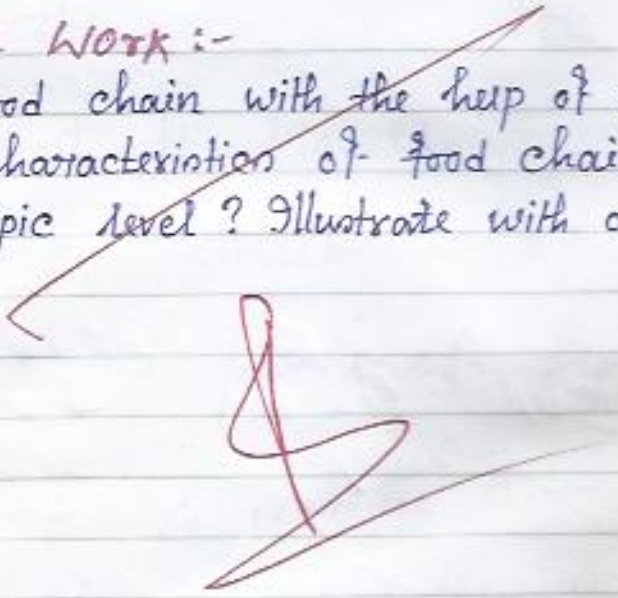


Recapitulation :-

Define food chain ?
What are the characteristics of a food chain ?
What is food web ?

Home Work :-

Illustrate food chain with the help of a diagram.
Write the characteristics of food chain.
What is tropic level ? Illustrate with an example.



LESSON No. 04

Date 17.01.15 Duration of the period 35 minutes

Pupil Teacher's Name Piyali ojha Pupil Teacher's Roll No 9560155

Class (VIII) Average Age of the pupils 15 years

Subject L.Sc. Topic Various flower parts of ~~flower~~ plant

Instructional Objectives :—

After going through the lesson, the student will be able to —

- Recall about the flower
- Recognize the structure of a flower.
- Identify all the parts of flower.
- To develop scientific thinking, reasoning and imagination among the students.
- Tell about functions of diffent parts of flower.

INSTRUCTIONAL AIDS :-

General :- Chalk, Blackboard, Duster etc.

Specific :- Chart of different part of flowers.

PREVIOUS KNOWCEDGE ASSUMED :-

Pupil's teacher assume the student must know the different trees and plants parts.

P.K. Testing

Pupil teacher activity	Student activ
How many types of reproduction are there?	Two - Sexual & Asexual
What is reproductive part of plant.	Flower.
What kind of reproduction occurs in flowering plants.	No response.

Announcement of Topic :
Sexual reproduction occurs flowering plants. So today ~~Howe~~ shall study about parts of flower.

Presentation

Sub matter	Pupil teacher activities	Student activity
Various parts of a flowers.	In flowering plants all the steps of sexual reproduction occurs with in specialized reproductive organs called flower. Thus a flower may be defined as a specialized condensed reproductive shoot of plants on which are inserted the essential reproductive parts.	Students listen carefully.

Student's activities.

Main Parts of flower

What are the main parts of flower?

calyx, corolla
Androceium
Gynoecium

Structure & Function of
- calyx
- corolla
- Androeceium
- Gynoeceium

Calyx: It is outermost whorl of floral leaves called sepals. Sepals are generally green in colour & protective in function occasionally they are bright coloured.

Corolla: It is collection of petals and are generally large and show and brightly coloured.

Why corolla is brightly coloured

No response

To attract insects for pollination. Calyx & corolla are non essential parts of flower. So they are not directly involved in reproduction.

Androecium: It is collection of stamens the male reproductive organ of flower. Each stamen consist of another filament. Filament is a long stalk that bears an another at the top. Usually anthers are contain pollen sacs. The pollen grains are made inside the pollen sac. Thus each pollen

Students note down the str. and function of androecium.

Student's activities

grains produces two male gametes which germinate to produce pollen tube.

Gynoecium:

It is the collection of carpels, the female reproductive organ of flower. Each carpel has a swollen ovary, long style and a terminal stigma. If a flower has only one carpel. It is called monocarpellary, generally flower have more then one carpel, either free or fused. The stigma receives pollen grains during pollination & support their growth.

Students listen carefully

Structure of ovary

The ovary is the swollen and hollow basal part that contain ovule. Each ovule has an embryonic sac that a haploid egg. The female gamete.

Students listen carefully

Pollination and its types

Pollination: The transfer of pollen grains from the opened anther to the stamen to receptive stigma of carapel.

Types of pollination:

i) Self pollination: Transfer of pollen from anther of a flower to stigma of the same flower to the stigma of another flower born on same plant.

ii) Cross pollination: It involves transfer of pollens from flowers one plant to stigma of flower of another plant of same species.

Student's activities

- Student note down definition of pollination

Students listen carefully

Recapitulation :-

What are parts of stamen ?
What are parts of pistil ?
What is cross-pollination ?

Home work :-

What is pollination ? Types of pollination ?
Describe various parts of flower with the help of a diagram ?

LESSON No. 05

Date 18.01.15 | Duration of the period 35 minutes

Pupil Teacher's Name Piyali ojha | Pupil Teacher's Roll No. 956015

Class IX | Average Age of the pupils 15 years

Subject L.Sc. | Topic Organic evolution

i) **Knowledge activity :-**

i) The learner is able to define organic evolution.
ii) The learner is able to reproduce organic evolution.
iii) The learner is able to recall organic evolution.

Understanding objectives :-

i) The learner is able to illustrate organic evolution.
ii) The learner is able to explain organic evolution.

Application objectives :-

i) The learner is able to integrate organic evolution.
ii) The learner is able to analyze organic evolution.

Instructional aids

Chalk, blackboard, duster.

What is evolution ?	The gradual changes from one from to another is an organism.
What are fossils ?	The dead remains of the organism which lived in the remote past.
What is Homologous organ?	No response.

Announcement of Topic : There are many evidences in favour of organic evolution. So, today we shall be discussing about these evidences.

Presentation

Sub matter	Pupil teacher activity	Student's activity
Organic evolution	Evolution has been desired from latin word evolve which means to unfold. It helps to a gradual changes from one form to another. such a change in living org. with time since the begining of life is termed organic evolution.	Students listen carefully
Define & explanation of organic evolution	Enormous types of org. that exist on the earth at present & also the fossils have large no. of common features which provide evidence in favour of organic evolution. All these evidences support the view that the present day diverse forms of living org. have evolved from common ancestors.	Students note down carefully

Morphological & Anatomical evidences:

Student's activities

What is morphology?

No response

The external features of an organism is called morphology.

What is anatomy?

The internal str. or frame work of the body.

Homologous organs.

Homologous organs:

The organs which perform diff function in diff. species but have similar basic str. & similar embryonic origin are called as homologous organs eg: fore limb of frog, a lizard, a bird & a human. These have same basic str. but perform entirely diff functions. The forelimb of a frog help the organism to prop up the front end of body at rest. In lizards it is used for creeping. In birds for flying & in human for grasping. So, this shows that they have evolved from a common ancestors.

Students listen carefully about it.

Students listen carefully

Student's activity

Analogous organs: The organs which are quite different in fundamental str. & embryonic origin but perform same function & may superfinally look a like in entirely diff. species are called analogous organs.
eg. Wings of an insect & that of a bird. These organs are used for flying but they are very diff. in str. An insect wing is a fold of membrane supported by few muscles. but its wings are formed of limb bones covered with flesh, skin & feather.
So. What does it show? That they both are evolved from common ancestor.

Vestigeal organ.

Vestigeal organs:
The organ which occur in reduced form and are useless to possessor but are homologus to

Student's activities

fully developed functional organs in the ancestor or related form are called vestigeal organ.
eg. Vermiform appendix is a blind tube at end of large intestine in certain mammals including us. In herbivorous mammals it is a large structure & serves for the digestion of cellulose contents of the food by bacterial action. In human beings the habit of taking soft and cooked food has reduced the need for bacterial digestion. So it become reduced & useless.

Students listen carefully

Explaination of vestigeal organs present in human beings.

Recapetulation :-

1) Define organic evolution?
2) What are homologous analogous & vestigeal organs?

Home Work

1) Differentiate between Homologous & Analogous organs?


DISCUSSION
LESSON

LESSON No. 01

Date 04.02.15 Duration of the period 35 min

Pupil Teacher's Name Piyali ojha Pupil Teacher's Roll No. 9560155

Class VIII Average Age of the pupils 14 years

Subject L.Sc Topic Respiratory system in human.

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the Student's will be able to :-

- learn about Respiratory system in human body.
- learn about different organs comprising respiratory system.
- Process of respiration.
- Generalize the terms used in respiration (Pharynx, larynx, alveoli etc.)

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, pointer etc.

Specific :- Model of Respiratory System

PREVIOUS KNOWLEDGE ASSUMED :-

It is expected that students should have knowledge about various tissue inside body.

It is expected that students should have Knowledge about various tissue inside body.

Introductory Objectives:

i) What is air ?
ii) Which gases are present in air?
iii) How do we get oxygen.

Announcement of the topic: Today we shall study about the system of Respiratory in human body.

Presentation

subject matter	pupil teacher's activity	Student's activity
organs constituting respiratory system	What are the different parts present in respiratory system? Explain.	No response

i) Pharynx
ii) Larynx
iii) Trachea
iv) Lungs
v) Bronchioles

		Student's activity
Buccal cavity	Where does breathing start → from?	Breathing starts from nose which we take air in.
	What → function do the hairs in the historic perform?	There help in getting the air warmed and filter.
Pharynx	What is the name given to this narrow tube? PTS statement: It is called pharynx. After pharynx where does inhaled air enter?	No response / ~~pharynx~~
Larynx	What is name of given to this organ? PTS - This stretched organ is larynx?	No response / ~~larynx~~
Trachea	What is the name give to this pipe? PTS - It is called trachea.	No response / ~~Trachea~~

Student's activities

How respiration is carried out?

Inhaled air through nostrils passing through various respiratory organs reach to alveoli from where air goes to blood & CO_2 is taken up & it is expelled out. Thus respiration occurs

Recapitulation:

i) What is the function of pharynx?
ii) What is the function of larynx?
iii) What is Trachea?

Home work:

i) Mention the different organs in respiratory system with it functions.


SCHOOL TEACHING
PRACTICE LESSONS

LESSON No. 01

Date 13.02.15 Duration of the period 35 minutes

Pupil Teacher's Name Piyali ojha Pupil Teacher's Roll No. 9560155

Class IX Average Age of the pupils 15 years

Subject L.Sc. Topic Plant movements

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the Students will be able to :-

- Able to recall Plant movements.
- Able to recognize plant movements.
- Classify the types of plant movements.
- Differentiate b/w animal & plant movements
- Example of plant showing movements.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Black Board, pointer etc.

Specific :- Chart showing plant movement.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher assume the student must know the ~~plant~~ various types of plant movements.

P.I.K. Testing

Pupil Teacher activity	Student activity
What is stimulus?	The changes on environment to which the organisms react & respo
What are phytohormones?	Plant hormones are called phytohormones.
What is co-ordination?	No response.

Announcement of topic: Students today we shall study about various plant movements.

Presentation

Sub matter	Pupil Teacher activity	Students activities B/W
Co-ordination of plant	The working together of various organs (plants) of the body of an organism / plant in a proper reaction is called as co-ordination control & Co-ordination in plants is not as elaborate as an animals plants do not. have nervous system muscles & sense organ like animals still they can respond are react to various stimuli such as light, gravity water etc. plants co-ordination their	

Student's activities

responses against environmental stimuli by using hormones.

Plant movements: Plant movements are brought about by some definite external & internal stimuli by using phytohormones. According to the nature of stimulus the muts may be spontaneous (automatic) or induced (Paratonic) classification of induced plant movements.

1) Nastic muts 2. Tropic movement.

Nastic Movements: These are non directional induced variation movement that occur due to turger change.

i) Seismonastic movements: Such movements occur in response to touch. There are best seen in touch-me-not.

Mimosa pudica: Sensitive plants

What happens when we touch the leaves of a touch-me-not plant?

After sometime, leaves regain their original state.

ii) Nyctinashi movements: The muts involving the diurnal variation in the position of-

Students note down about phytohormones

Its leaves immediately fold up and drop down.

Student's activities

flowers & leaves & called nyctinastic mvts. This involve photonastic & ther monastic movements.

a. Photonastic: If diurnal variation in position of- plant part are caused by light stimulus such non- directional mvt are c/d photonastic movement.

b. Thermonastic movement: If the diurnal variation in the position of- plant parts are caused by the change in the temparature of the surroundings.

Tropic Movement:

Explanation of topic of mvt. & its types

Directional Movements of- specific part of a plant in response to external stimuli are called tropic movement.

If the movement of- the plant part is towards the stimulus, it is termed +ve tropism.

Students note down about +ve -ve tropism.

Types of- tropic movements:

i) Phototropism: It is the directional movements of-

Students listen carefully

Student's activities

plant part in response to light stimulus.
eg. Stem/shoot of a growing plant moves towards light & thus shows +ve phototropism & not shows -ve phototropism.

ii) Geotropism : It is the directional movt. of the plant part in response to the gravity.

What kind of geotropism does a stem of a plant shows?

-ve geotrophism So, its grows gravity.

iii) Chemotropism : It is the directional movt of the plant part in response to chemical stimulus.

iv) Hydrotrophism : It is directional mvt of the plant part in response to water stimulus.

Students listen carefully about chemotrophism & Hydrotrophism

- What is +ve hydrotrophism? If plant part moves towards the water stimulus.

No response.

What is -ve hydrotrophism?

plant part moves away from water stimulus.

Recapitulation :-

i) What is co-ordination ?
ii) Differentiate between tropic & nastic movements ?
iii) What is chemotrophism ?

Home Work :-

i) Study & learn various types of tropic movement ?

LESSON No. 02

Date 14.02.15 | Duration of the period 35 minutes

Pupil Teacher's Name Piyali ojha | Pupil Teacher's Roll No. 9560155

Class VIII | Average Age of the pupils 15 years

Subject L.Sc. | Topic Living things

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the student will be able to →

- List up various living things
- able to define living things
- able to name few habitats & explain adaptation.
- find the kind of adaptation in an organism or plant.
- Differentiate between various habitats.
- Evaluate adaptation.

INSTRUCTIONAL AIDS

General :- Chalk, Black Board, Duster & charts.

Specific :- Model

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil teacher assume the student must know the difference between living & non-living things.

P.K. Testing

Pupil teacher activity	Student activity
1. What are living things?	Those things which are alive and can move from one place to another place called living things.
2. What are non-living things?	Those things which are dead & can not move from one place to another place.
3. What is habitate of living things?	In the surroundings which is suitable for their body.
4. What is habitat?	No response to habitat.

Announcement of the topic: Well students, today we shall study about living organisms & their surroundings.

Presentation

Pupil teacher activity	Student activity	activities
Sub matter Living things: It differ from one place to another place according to their surroundings. Eg: In desert, desert plants & animals are found. The desert plants & animals are modified according to their dry conditions. Eg: plant cactus. animal - camel. hyaena.	Students listen carefully	

Student's activities

Can you tell me aquatic adaptation ?

No answer

- In aquatic habitat animal body is modified according to the aquatic conditions. There is no place in this earth where no living organism is present.

Habitat : It is a place in the ecosystem where an organism live & interacts with the surroundings.

Students note down diff. of habitat.

Let us start with a forest. Think about various plants & animals found there.

In aquatic habitat, plants live in marine water & animals respire through gills by using dissolved oxygen in water.

Adaptation : The characteristics of an organism due to which an organism becomes able to leave in the surrounding or environment is called adaptation.

Students note down the definition of adaptation

		Student's activities
	1. Desert organisms require less amount of water. In desert areas days are hot & night are cold. 2. Animals do not release much water from their feual matter remains dry. 3. Sweating do not occur in their body that is reason of their living in dry conditions.	
	Aquatic adaptation: i) The animals have gills which are used for breeding. ii) The animal body is usually stream lined or spindle shaped. iii) The plant parts are coated with wax to reduce water accumulation iv) The leaves are scaly	Students note down chooracteristics of aquatic habitat.
Components of ecosystem	These are two component of the ecosystem i) Biotic ii) Abiotic components.	Students note down the components of ecosystem.

Biotic components: It include all living things such as plants and animals.

Abiotic components: It include rocks, soil, water and air all other non-living things.

Recapitulation :-

i) What is habitat-? Define with example.
ii) What are the components of- ecosystem.

Home work :-

i) Define adaptation with example?
ii) Define biotic- abiotic components of an ecosystem.?

LESSON No. 03

Date 16.02.15 | Duration of the period 35 minutes

Pupil Teacher's Name Pijali Ojha | Pupil Teacher's Roll No. 9560155

Class VIII | Average Age of the pupils 15 years

Subject L.Sc. | Topic Plant & their classification

INSTRUCTIONAL OBJECTIVES :-

After going through lesson, the students will be able to —

- List the parts of plant
- Recognize plant parts.
- Distinguish various plant parts.
- Explain the function of plant parts.
- Name parts of plants.
- Classify different kind of plant ie herb, Shrub & tree.

INSTRUCTIONAL AIDS :-

General :- Chalk, duster, Blackboard, pointer etc.

Specific :- Chart showing well labelled diagram of a plant.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher

Assume the student must know the Structure & function of plant.

P.K. Testing

Pupil teacher activity	Student activity
1. What are the main parts of plant ?	Stem, branch, leaves, root
2. Do every plant have same height ?	No all the plants are of differe hight.
3. Do every plant is following?	No some are following & not.
4. In how many parts we can classify plants ?	No response.

Announcement of topic : Well students today we shall study about plants & their classification.

Presentation

Sub matter	Pupil teacher activity	Student activities	Activities
Plants & their parts	In our environment we can see various kinds of plants. eg. some plant are following & some are non following, some are big & some are small & some are herbaceous & some are spiny.	Students listen carefully	✓
Morphology of Plants	Do you know in how many parts they are classified according to their morphological str.?	No response	✓

	Student's activities
- The external structure of a plant is called as its morphology.	
plants are classified into three parts according to the difference in various morphological characters. Herb, Shrub, Tree	Students note down the classification of plants.
i) Green & soft stemmed plants are called herbs. ii) They are usually short in height. iii) They are usually less branched. eg. Bringal, Tomato, Mustard plant.	Students note down the classification of herbs.
i) Some plants are branched from the lower part of stem & forms a bunch of branches are called shrubs. ii) Stem is hard but not thick in those plants.	Students note down the classification of shrub.
i) Trees are very tall in height. ii) Their stems are quite hard & strong & brownish in colour. iii) They are branched from the upper part of stem.	Students listen carefully

: Tendrils are the modified leaves which curls around any support nearby it and makes the plant stand upright.

Have you seen the money plant grape plant, pumpkin, bottle gourd What kind of plants are these.

Students answer that we have seen it. These plants have trendils.

Creeping plants:

Some week stemmed plants which can't stand upright and remains separated on the land are called creeping plants.

Students note down about creeping plants.

Function of various plant parts:

i) Roots: Absorption of water & minerals from the soil. It helps the plant to remain attached to the soil.

ii) Stem: It given mechanical support to the stem plant. In higher plant, it helps in 2° growth.

iii) Leaves: It helps in preparation of food by the process of photosynthesis. It also helps in transpiration.

Students note down function of plant parts.

Student's activity

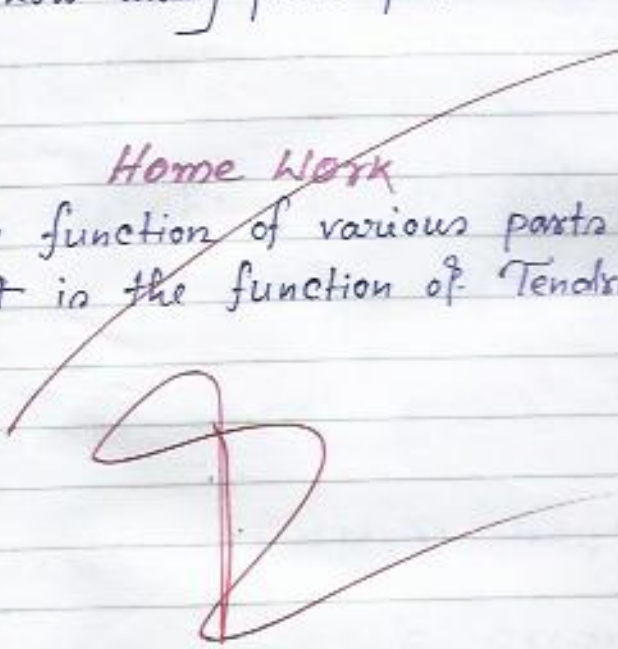
iv) Flowers : It helps the plants in reproduction. It also helps in formation of seeds and fruits.

Recapitulation :-

1. What is morphology ?
2. Define tendrils with an example ?
3. In how many plant parts are divided ?

Home Work

1. Write function of various parts of a plant ?
2. What is the function of Tendrils ?



LESSON No. 04

Date 18.02.15 | Duration of the period 35 mins

Pupil Teacher's Name Pijali ojha | Pupil Teacher's Roll No. 956015

Class IX | Average Age of the pupils 15 years

Subject L.Sc. | Topic Adolescence

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the students ~~must~~ will be able to →

- Define the age of adolescence.
- Recognize changes occurs during adolescence.
- Identify & summarize the change occuring during adolescence.
- Discuss the changes after adolescence.
- Evaluate the changes after adolescence.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, Pointer etc.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher

Assume the student must know ~~change~~ what kind of changes occurs during adolescence period.

P.K. Testing

Pupil teacher activity	Student activity
1. How many types of reproduction are there?	Sexual & Asexual.
2. From which age adolescence starts?	From 11-19 years.
3. What are male and female reproductive organs?	Male reproductive organ-Testis, penis. Female reproductive organ- ovary, fallopian tube & uterus.
4. What is adolescence?	No response.

Announcement of the topic: Well students today we shall study about adolescence.

Presentation

Sub matter	Pupil teacher activity	Student activities
Adolescence:	The age from 11-19 years in which many changes occur in the body is called as adolescence. Only after reaching a particular age an organism becomes able to reproduce. The children coming under this are also called — Teenagers.	Students note down definition of adolescence.

Student's activities

After the initiation of adolescent stage boys & girls becomes able to reproduce or they becomes sexually mature..

Students listen carefully.

i) Growth in height: In this time increase in height occurs. Growth of height occurs due to growth and development of bones of heads & legs.
Calculation of total height (in cm)

$$\frac{\text{Present height (in cm)} \times 100}{\%\text{ of total height in present-time.}}$$

Students note down various changes occuring during adolescence the formula

Our height depends upon the genes of our parents. During this period of growth a balanced diet is required.

Students listen carefully.

During this time period chest and shoulder broadens as compared to children of lower age development of muscles occur in boys which is different from girls.

In adolescent period growth of larynx (voice-box) occurs. In boys it can be seen as a expanded area in the neck which is called as Adams age. In girls we can't see it.

Students note down changes in larynx.

Student's activity

What are male & female reproductive organs.
In teenage breast development occurs in girl and in boys breard & moustache grown on the face.
These characteristics makes difference in a girl & a boy and are called as 2° sexual characters.

Male organs: Testis, Penis.
Female organs ovaries, uterus & fallopian tube.

Do you know which thing initiates these changes in body of a teenagers?
- These changes are brought about by 'HORMONES'

No response.

Hormones:

Hormones: Hormones are chemical substances released by the special glands called endocrine glands into the blood stream.

Students note down about hormones.

Male & female hormones

From the initiation of adolescence testis start the secretion of male hormones called as 'Testosterone & ovaries starts secretion of female

Students note down about male & female hormones.

Student's activities

hormone called as 'Estrogen'
Secretion of these hormones
is controlled by pituitary gland.

Target site: Targetsite : Targetsite hormones are released in the blood — stream by the endocrine — glands and they act on particular sites where the changes can be seen and are called as target site.

Students listen carefully.

Recapitulation :-

1) Define adolescence ? What are the various changes which occur during adolescence ?
2) What changes occur in larynx during adolescence ?
3) What are Hormones ?

Home Work :-

1) Explain various changes occuring during adolescence?
2) What are Hormones & what is target site ?

LESSON No. 05

Date 19.02.15 | Duration of the period 35 minutes

Pupil Teacher's Name Piyali Ojha | Pupil Teacher's Roll No. 9560155

Class IX | Average Age of the pupils 15 years

Subject L.Sc. | Topic Nutrition & its Kinds

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the students will be able to →

:- Define Nutrition

:- Classify organism on basis of nutrition

:- Name different types of nutrition.

:- Demonstrate various kind of nutrition.

:- Compare various nutrition modes.

:- Evaluate nutrition.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, pointer etc.

Specific :- Chart showing flow diagram of nutrition.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher assure the student must know about types of nutrition & their importance in our body.

P.K. Testing

Pupil teacher activity	Student activity
1. What are nutrients?	Nutrients are organic & inorganic substances which an organisms obtain from its surroundings.
2. Based on the kind of nutrients in how many parts organisms are divided?	Herbivorous, Omnivorous and Carnivorous.
3. Give examples of few nutrients.	Vitamins, minerals, Carbohydrates, Water, fats etc.
4. What is nutrition?	No satisfactory answer.

Announcement of topic: Well students, today we shall study about nutrition & its kinds.

Presentation

Sub matter	Pupil teacher activity	Student's activities
Nutrients	We use nutrients for growth and development of body.	Students listen carefully
Definition of Nutrition	Nutrition is defined as the process of intake of nutrients and utilization by an organism in various biological activities.	
	What are inorganic & organic nutrients?	No response.

Student's Activities

Inorganic Nutrients : Inorganic substances such as water, CO_2, minerals (Fe, Cu, Zn) are inorganic nutrients.

Organic Nutrients : The organic nutrients are obtained from the organism (Plants & animals) eg: fat, vitamins, proteins etc.

Students listen carefully

Modes of Nutrition : Depending on the modes of obtaining nutrients all the organisms can be classified into two major groups — ① Autotrophic ② Heterotrophic

Students note the mode of nutrition

Autotropic Nutrition : It is a kind of nutrition in which the organism prepare their own organic food utilizing only the inorganic raw materials that in surrounding eg. green plants.

Heterotropic Nutrition : It is kind of nutrition in which the organisms desire energy from the intake and digestion of the organic substances prepared by autotropics & other organic sources :

Students note down types of heterotrophic nutrition

Student's activities

Types of heterotropic mode of Nutrition.
1) Saprophytic nutrition.
2) Parasitic nutrition.
3) Holozoic nutrition.

Saprophytic Nutrition: It refers to such kind of nutrition in which the organisms desire their nutrients from dead & detaying organic matter such as rotten leaves, rotten bread, dead animals etc.

The organisms having saprophytic mode of nutrition are called 'SAPROPHYTES'.

Can you give any example of organisms having saprophytes Nutrition? eg. fungi & bacteria

No response

Parasitic Nutrition: It is a types of nutrition in which the organisms (or parasites) desire their nutrients or food from other living organisms. The organisms that support or provides sustenance to a parasitic is called a host.

Students listen carefully.

What is the example of organism having parasitic nutrition.

No response

Student's activities

eg. Several fungi (Albugo phyto troph etc) bacteria, a few parasitic algae. Some flowering plants like cuscuta (Amaribel), bladder wort etc are also parasites.

Students note down the examples.

Holozoic Nutrition: In which the organisms take in food in the form of complex organic matter by ingestion is called holozoic nutrition. All the herbivores, omnivores and carnivores are holozoic. It involves ingestion, digestion, assimilation.

Students listen carefully.

Recapitulation :-

1) What are organic & inorganic nutrients?
2) Define nutrition?
3) What is parasitic nutrition?

Home Work

1) Explain various kinds of nutrition with example?
2) Name few parasitic plants?

LESSON No. ...06....

Date 20.02.15 Duration of the period 35 mins

Pupil Teacher's Name Piyali Ojha Pupil Teacher's Roll No. 9560155

Class IX Average Age of the pupils 15 years

Subject L.Sc. Topic Human Reproductive System

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the students will be able to →

:- Define reproduction
:- Name the reproductive organs of human beings.
:- Distinguish between male & female reproductive organ.
:- Explain different mode of reproduction in animals.
:- Summarize & evaluate human reproduction.

INSTRUCTIONAL AIDS :-

General :- Chalk, Dusters, Chalk-Board, pointer etc.
Specific :- Model of Reproductive System in Male & female.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil teacher assume the student know about Reproductive System in human.

P.K. Testing

Pupil & teacher activity	Student activity
i) What is reproduction ?	It is defined as production of new generation of individual of the same species that are physically independent of their parents.
2. Why reproduction is necessary ?	Reproduction produce a group of immortality by replacing the dead individual with new ones.
3. How many types of reproduction are there ?	Two : Sexual & Asexual.
4. What are primary & Secondary sex organ ?	No response.

Announcement of Topic : Today we shall study about human reproductive system.

Presentation

Sub matter	Pupil & teacher activity	Student activity	Activities
Human reproductive system	Human beings are unisexual & the human reproduction is highly evolved. There is a distinct sexual dimorphism i.e. makes are visibly diff. from gender in physical build up & external genital organs & accessory sex characters.	Student listen carefully.	

Student's activities

Primary & Secondary Sex organs: The primary sex organs are gonads which producer gametes & secrete sex hormones. The gonads of male are called testis which produce male gamets sperms and male hormone testosterone. The gonads of female are ovaries — which produce female gamets ova & female hormone estrogen & progesterone..

Students note down name of ♂ & ♀ — hormones

Primary(1°) & Secondary (2°) Sexual characters: 1° sexual characters are those present at birth where as 2° sexual characters are those that develop at puberty.

Student note down 1° and 2° characters.

2° sexual characters in males.

Secondary Sexual characters in human males:
1) Enlargement of penis and Scrotum.
2) Broadening of shoulders & increase muscle development.
3) Enlargement of larynx & thickening of vocal cords

Student's activities

producing deepening of voice.
4. Growth of pubic hair & extra hair on the face, in the armpits & on the chest.
5. Changes in behaviour associated with courtship & mating.
6. Increase in light.

Students note down the 2° characters of male and female.

Secondary sexual characters in human female:
i) Growth of breast & external genitalia.
ii) Growth of pubic hair & in the armpits.
iii) Hair on face & chest are lacking.
iv) Broadening of pelvic.
v) Initiation of menstruation & ovaluation.
vi) Increase in the subcutaneous fat particularly in thigh, shoulders, buttocks & face.

organs of male reproductive system

Organs of male reproductive system:
i) Testis
ii) Scrotum

Students note down the enlisted organs

Student's activities

iii) Vas Deference.
iv) Urethra
v) Penis.

of male & female reproductive system

Organs of female reproductive system

organs of female reproductive system

i) Ovaries
ii) Fallopian tubes
iii) Uterus
iv) Vagina.

Recapitulation

i) What are the primary & secondary sex organs in males & females?
ii) What are the organs of males & females reproductive system?

Home work

i) Define primary & secondary sexual characters?
ii) List of various secondary characteristics in males & females.

LESSON No. ...07.....

Date 21.02.15 | Duration of the period 35 minutes

Pupil Teacher's Name Pijali ojha | Pupil Teacher's Roll No. 956015

Class IX | Average Age of the pupils 15 years

Subject L.Sc. | Topic Population Control

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the students will be able to →

- Name few methods of population control.
- Define population control
- Explain method of population control.
- Factor affecting the population.
- Demonstration the method of population control.
- Analyze & Evaluate population control.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, pointer.

Specific :- Chart.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher assume the Student Know the method of population control.

P.K. Testing

Pupil teacher activity	Student activity
1. What is reproduction?	Reproduction may be defined as the production of new generation of individuals of the same species that are physically independent of their parents.
2. From which age a person becomes able to reproduce?	After reaching age to puberty.
3. What is population control & its various methods.	No satisfactory response.

Announcement of topic: Well students today we shall study about various methods of population control and its importance.

Presentation

Sub matter	Pupil teacher activity	Student activities
Population Control	Having pregnencies too frequently & giving child birth at quick succession reduce mother's health & vitality & cause mental strain. Large families are also a cause of tension.	Students listen carefully
Birth Control	Birth control: The regulation of conception by preventive measures or devices to control the	Students note down definition of birth control.

number of offsprings is called birth control.

The methods or device of birth control which deliberately prevent fertilization are contracephon.

These methods are broadly categorized as follows.

1) Barrier methods 2) Chemical methods 3) Natural methods 4. Surgical methods 5. IUCD

Students note down methods of birth contro

1. Barrier Method: These are physical devices to prevent the entry of sperm in female genital tract during population. They also protect against sexually transmitted diseases. Some common barrier methods are —

Students listen carefully.

i) Condoms: These are thin, strong, rubber sheaths used by a male to cover erect penis. It is simple but effective & widely used. It checks pregnancy by preventing deposition of semen in vagina.

ii) Femidom: It is not a common contraceptive method. A femidom is a thin rubber tube which fits inside vagina.

iii) Diaphragm: It is a flexible rubber cover that is fitted over the cervix in the

Student's activities

female vagina.

2. Chemical method: From tablets, jellies, pastes, creams & spermicides are some common chemicals used by females. These are placed in vagina. Oral pills and vaginal pill are also used.

3. IUCD: A copper T is inserted into uterus by a practising doctor or nurse & left in place. It prevents implantation in uterus.

Students note down full form of IUCD.

4. Natural methods: These methods include abstinence, rhythm method and coitus interruptus.

5. Surgical methods: Surgical methods are i) vasectomy — ii) Tubectomy.

Vasectomy: This is a small surgical operation performed in males. It involves removed of a small portion of the sperm duct by surgical operation.

Students note down about Vasectomy & Tubectomy

Tubectomy: This operation is performed in females. It involves the removed of a small portion of fallopian tubes by surgical operation. The cut ends are then ligated with threads. It prevents the egg to enter fallopian tube.

Recapitulation

i) What is birth control?
ii) What is name of surgical method of birth controls in males?
iii) What is the name of surgical method of birth controls in females?

Home Work

i) What is IUCD?
ii) What are the natural methods of birth control?
iii) Explain vasectomy and tubetomy?

LESSON No. 08

Date 23.02.15 | Duration of the period 35 mins.

Pupil Teacher's Name Piyali Ojha | Pupil Teacher's Roll No. 9560155

Class VIII | Average Age of the pupils 15 years

Subject L.Sc. | Topic Endocrine Gland.

INSTRUCTIONAL OBJECTIVES :—

After going through the lesson, the student will be able to :—

- Name few hormones.
- Recognize hormonal changes.
- Explain the function of hormones.
- Distinguish between male & female hormones.
- Demonstrate the changes due to hormones.
- Compare the function of male & female hormones.
- Discuss the function of hormones.

INSTRUCTIONAL AIDS :—

General :- Chalk, Duster, Chalk Board, pointer etc.

Specific :- Chart showing endocrine gland.

PREVIOUS KNOWLEDGE ASSUMED :—

pupil's teacher assure the student must know about endocrine gland.

P.K. Testing

Pupil Teacher activity	Student activity
1) What are female reproductive hormones ?	Estrogen & progestrone
2) What are male reproductive hormones ?	Testosteron
3) What are hormones ?	These are chemical substance
4) Which gland controls secretion of various gland ?	No response.

Announcement of topic : The secretion of hormones is controlled by endocrine glands which are ductless glands. So we shall study about various hormones secreted by endocrine glands.

Presentation

Sub matter	Pupil teacher activity	Student activity
Glands	Before discussing human endocrine glands we should now what is meant by a gland & its types. Gland : A cell, a tissue or an organ which secretes certain useful chemical compounds required for particular function is called a gland.	Students listen carefully
Types of glands	Types of Gland : 1) Exocrine glands 2) Endocrine glands	

3) Heterocrine glands.

Exocrine glands

Exocrene Glands: These glands have ducts for discharging their secretions on to the body surface or into the cavities in the body sweat- & sebaceous glands of- skin, salivary glands of oral cavity, gastric glands in stomach and liver are some example of- exocrine glands.

Students listen carefully & notes of type of glands.

Endocrine gland

Endocrine glands: These glands lack duct- & pass their secretion into surrounding blood for transport to site of action.

Heterocrine gland

Heterocrine glands: They consist of both endocrine and exocrine tissue. The exocrine part has a duct- and endocrine part- discharged into secretion into blood.

Endocrine glands and their hormones:

Hypothalamus:

i) Release hormone.

ii) Inhibiting hormone.

Students note down hormon which is secreted by endocrine gland.

Pituitary gland :

Anterior lobe :

i) Follicle stimulating hormone.
ii) Leuteinising hormone.
iii) Somatotrophic hormones.
iv) Prolactin
v) Ardinocorticotropic hormone.
vi) Thyroid stimulating hormone(TSH)

Intermediate lobe :

i) Melanocyte stimulating hormone.

Posterior lobe :

i) Oxytocin (ii) vasopression

Thyroid :

i) Thyroxine
ii) Triido thyroxine
iii) Calcitonin

Parathyroid :

i) Parahormone.

Adrenals :

i) Glucocorticoids
ii) Mineralo corticoids
iii) Sex corticoids.

Medulla

i) ~~Adre~~ Adrenaline.
ii) Nonadrenalins.

Student's activity

Students make a notes of endocrine glands hormones

Student's activities

Pancreas :
i) Insulin ii) Glucagon
Gonads :
A. Testis : i) Testosterone
B. Ovaries : i) Estrogen
ii) Progestron
Pineal :
i) Melotoxine
Thymus : i) Thymoxin

Students note down carefully

Recapitulation

1) What are types of gonads.
2) Define gland & their functions.

Home work

1) Write name of various endocrine glands & the hormones secreted by them ?
2) Differentiate b/w endocrine, exocrine & heterocrine glands ?

LESSON No. 09

Date 22.02.15 Duration of the period 35 mins

Pupil Teacher's Name Piyali Das Pupil Teacher's Roll No. 9560155

Class VIII Average Age of the pupils 15 years

Subject L.Sc. Topic Plant hormones

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the student will be able to :-

- Name plant hormones.
- Define plant hormones.
- Explain the function of plant hormones.
- Compare the function of various hormones.
- Explain different types of plant hormones.
- Evaluate the role & function of plant hormones.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, Pointer etc.

Specific :- Chart.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher assume that student must know about role of plant hormone in growth & development.

P.K. Testing

Pupil teacher activity	Skill activity
1. What is a plant hormone?	Plant hormones are naturally occuring organic chemicals substances present in plants
2. What are plant hormone called as ?	Phytohormones.
3. What is the function of plant hormones ?	Growth & development in plant
4. What are the various plant hormones ?	No response.

Announcement of topic : Students today we shall study the function of various plant hormones of Phytohormones

Presentation

sub matter	Pupil Teacher activity	student's activities
Plant hormones or Phytohormones	Plant hormones are also known as plant growth substances. Q. Beside growth various other activities are performed by plant hormones what are these ? - Breading of dormancy. - falling of leaves. fruits - growth in plants are also controlled by phytohormones Following are the major types of phytohormones.	Students answered that opening and closing of stomata

Student's activities

1) Auxins 2. Gibberelins.
3. Cytokinins 4. Abscisic acid
5. Ethene.
On the basis of their effect they are divided into two groups -
1) Growth promoters - These stimulate the plant growth.
2) Growth inhibitors - These inhibit the plant growth.

Auxin Functions :
i) The promote cell enlargement & cell differentiation in plants.
ii) These also promotes stem and fruit growth.
iii) These regulate important - plant growth movements and tropism.
iv) These induce parthenocarpy i.e. the formation of seedless fruits with fertilization.

Gibberelins Functions :
i) These promote cell enlarge ment- & all differentiation.
ii) These also promote growth of stem & fruits.
iii) Rosette plants i.e. plants the show profuse development-but

	Student's activities
reduced internode growth. Cytokinins functions: i) These promote cell division in plants. ii) These play vital role in the morphogenesis in plants. iii) These help in breathing the dormany of seeds & buds. iv) These delay wing of leaves. v) They promotes opening of stomata. vi) They also promote fruit growth.	students note down function of cytokinin functions
Ethene function: i) It promotes growth & riping of fruits. ii) It helps in breaking the dormancy in buds & seeds. iii) It promote yellowing and senescense of leaves.	Students note down about Ethene hormones
Abscisic Acid function: i) It promotes the dormancy in seeds & buds & thus inhibits growth. ii) It also promotes the closing of stomata.	Students note down function of abscisic acid hormones carefully

Recapitulation

i) Define plant hormones ?
ii) What is function of auxin & cytokinins hormones ?
iii) What are growth promoters and growth inhibitors ?

Home work

i) Write function of auxin and gibberelins ?
ii) Define parthenocarpy ? Which hormones induces parthenocarpy ?

LESSON No. 10

Date 24.02.15

Duration of the period 35 mins

Pupil Teacher's Name Piyali Saha

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.Sc.

Topic Various Action in Animals

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the students will be able to :-

:- List eg. of actions.
:- Define actions in animals.
:- Summarize actions in animals.
:- Distinguish between voluntary & involuntary action.
:- Demonstrate few action in animals.
:- Evaluate action in animals.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, Pointer etc.

Specific :- Chart.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher assume the student must know about various action in animals.

P.I.K. Testing

Pupil teacher activity	Student activity
1. What is co-ordination?	The working together of various organs (parts) of body of an organism in a proper manner to produce proper reaction to a stimulus is called Co-ordination.
2. Which system controls co-ordination in animals?	Nervous system.
3. What does nervous system composed of.	Neurons.
4. What are various actions an animals?	No response.

Announcement of topic: Well students we shall study about various actions in animals.

Presentation

Subject matter	Pupil teacher activity	Student's activity	activities
Reflex action	Specific changes in the environment evokes an appropriate response in the form of mvt of action in all living organisms. Such muts or actions in these organisms are carefully controlled.		
Types of action	Animals perform 3 types of actions (i) Reflex action (ii) Voluntary actions (iii) Involuntary action		

Student's activities

Reflex action : These are involuntary action that occur without the will of an animal.

Definition : Spontaneous, automatic and mechanical response to a stimulus acting on a specific receptor without the will of an animal.

Example : Blinking of eyes, mut of diaphragm during respiration withdrawl of hand or feet when something painful is stricked or touch.

Students listen carefully and write the eg. of reflex actions

What happens in reflex actions ?

In reflex action fine tips (dendrites) of receptors (sensory neurons) quickly relay a message (electric impulse) via secondary nerves to spinal cord. The spinal cord then sends information via motor neurons to effectors. The path taken by ~~the~~ nerve impulse in a reflex are.

Thus reflex actions generally involve spinal cord for quick response to — specific stimulus. However, information input also goes on to reach the main where thinking process occurs.

There are some reflexes which involve brain such reflexes are

Student's activities

cerebral reflexes.

Involuntary action

Involuntary Actions: Involuntary muscular actions are performed by the animal without its will. These occur automatically & the animal has no choice in it. eg: Regular beating of heart, blood pressure, peristaltic movements of the oesophagus.

Voluntary action

Voluntary Actions: Voluntary muscular actions are performed by the animal with it will.
In each voluntary action the animal exercises its choice so that the same stimulus may receive different responses at different times depending upon the situation eg: walking in a straight line, riding a cycle, picking up a pencil.

Students note down about Voluntary action.

Recapitulation

1) Under which action, blinking of eyes comes?
2) Contraction of pupil of human eyes in the presence of bright light comes under which action?
3) What is reflex are?

Home work

1) Differentiate b/w involuntary & voluntary actions?
2) Explain reflex action with the help of an example?

LESSON No. 11

Date 25.02.15 | Duration of the period 35 mins.

Pupil Teacher's Name Piyali Ojha | Pupil Teacher's Roll No. 9560155

Class VIII | Average Age of the pupils 15 years

Subject L.Sc. | Topic Excretion & Osmoregulation

INSTRUCTIONAL OBJECTIVES :-

After going through lesson, the student will be able to :-

- Define excretion
- List excretory substances.
- Understand the process of excretion.
- Explain process of excretion in animals.
- Summarize the process of excretion
- Evaluate the importance of excretion.

INSTRUCTIONAL AIDS :-

General :- Chalk, Dusters, Chalk-Board, Pointer etc.

Specific :- Model of Excretory System.

PREVIOUS KNOWLEDGE ASSUMED :- pupil's teacher

Assume the students most know about Kidney function & their regulation.

P. K. Testing

Pupil teacher activity	Student activity
1. What is human excretory organ ?	Kidney
2. What is excretion ?	It is a biological process by which an organism gets of excess toxic waste products of metabolism.
3. Why excretion is important for living beings ?	Because it removes the unwanted toxic substances from body.
4. What is the main excretory substance in human?	No response.

Announcement of topic : Well students today we shall study about excretion & osmoregulation in animals.

Presentation

sub matter	Pupil teacher activity	Student activity
Excretion and Osmoregulation	Two important homeostatic process occuring in living organisms which help to maintain the steady state are :— ① Excretion and ② Osmoregulation Excretion : It is a biological process by which an organism gets rid of excess or toxic waste products of metabolism.	Students listen carefully

Student's activities

If allowed to accumulate these product of organisms cells would generally be harmful & prevent the maintenence of a steady state.

Osmoregulation: It is a process that maintaince the amount of water & proper ionic balance in the body. It maintaince the constant osmotic condition in the body by regulatory the water content & solute conc. of body fluids, particularly of sodium, potassium and chloride ions.

Students listen carefully

Q. What is importance of excretion & osmoregulation?

Importance of excretion & osmoregulation:

i) Excretion removes the unwanted by products of metabolic pathways which unnecessarily hinder the chemical eqilibrium of reactions.

ii) Excretion removes many toxic substances which damage the cells, act as enzyme inhibitors or affect the metabolic activities of the organism.

iii) Excretion & osmoregulation regulate the ionic concentration of body fluids. This important because proper balancing of ions is necessary for enzyme

Excretion removes the unwanted by products of metabolic activities & no answer for osmoregulation.

Student's activities

Importance of excretion regulation

activity protein synthesis etc. Students listen carefully
iv) It regulates the water content of body fluids — which is very important in maintaining the solute potential & volume of body fluids.
v) Excretion is a very important process in regularly the pH of body fluid.

Excretion of Animals :
Animals usually have definite excretory organs through which they eliminate waste products & water. The sponges excrete through osculum.
In flat worms (tape worms) planarian etc.) have flame cells. Earthworm have nephridia. In insects centipedes and millipedes malpighian tubules.
In mollusca & vertibrates have kidney for excretion and osmoregulation.

Students listen carefully & note down — excretion in animals.

Recapitulation

1. What is excretion and osmoregulation ?
2. What is excretory organ of- earthworm, centipedes ?
3. What is the importance of osmoregulation ?

Home Work

1. Write importance of- excretion & osmoregulation ?
2. Write the names of excretory organs in Millipedes, Molluscs, Earthworm, Flatworms.

LESSON No. 12

Date 26.02.15 | Duration of the period 35 mins.

Pupil Teacher's Name Piyali Ojha | Pupil Teacher's Roll No. 9560155

Class IX | Average Age of the pupils 15 years

Subject L.Sc. | Topic Lymphatic System

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson Students will be able to :-

- Know the lymphatic system.
- Identify the function of lymphatic system.
- Understand the meaning and function of lymphatic System.
- Differentiate between circulatory & lymphatic system.
- Evaluate the function of lymphatic system.
- illustrate lymphatic system.

INSTRUCTIONAL AIDS :-

- General :- Chalk, Duster, Chalk Board, pointer etc.

  Specific :- Model.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher assume the student must know function of lymphatic system in body.

P.K. Testing

Pupil teacher activity	Student activity
1) What is transportation in human beings ?	It is a life process in which a substance synthesized or absorbed in one part of the organism is carried to other parts.
2) Which system helps in transportation of synthesized substance ?	Blood circulatory system.
3) What is other system Which help in transportation?	No response.

Announcement of topic : Well students, today we shall study about the circulatory system other than blood circulatory system which is lymphatic system.

Presentation

Sub matter	Pupil teacher activity	Students activity
Lymphatic system	Lymphatic system is the second important circulatory system that permits the entire human body & transport the liquid called lymph from body tissues to the blood vascular system. It consist of following : 1) Lymph & 2 lymph capillaries.	Students listen carefully.

Student's activities.

iii) Lymph vessels iv) Lymph nodes.

Lymph

Lymph : It is light yellow coloured mobile. fluid connective tissue which drains into the lymphatic capillaries from the inter cellular spaces. It consist of two parts -
1) plasma (2) lymphocyte cells.
The plasma is fluid matrix - which is somewhat similar in composition to blood plasma. It contains protein molecules, digested fat-, germs & fragment of dead cells.
The lymphocyte cells are special type of white blood cells which fight against infection. The lymph is also called extra-cellular fluid because it - bathes the cells & lies outside the cell.

Students listen carefully & note down about lymph and consist of- part. plasma. lymphatic cells.

Lymph capillaries:

Lymph Capillaries :
These are blindly ending mesh work of thin walled & highly permeable tubes having variable diametres.

Students note down about lymph capillaries.

Student's activity

Lymph vessels:
These are lymph containing vessels formed by joining of lymph capillaries. These are large tubues, resembling veins, with non return values. They finally join with the venous system usually near the heart.

Lymph nodes:
Lymph nodes
The lymph nodes are situated at intervals through the lymphatic system. They are masses of reticular tissue wrapped in a capsula of fibrous tissue.

Students makes a notes of lymph nodes.

Functions of lymphatic system
Functions of Lymphatic system:
i) Lymph absorbs some of the fluid from the digestive tract. It possess proteins from circulation to tissues.
ii) The lymph drains excess fluid from extracellular spaces back into the blood.
iii) It protects the body by killing the germs.

Students write the function of lymphatic system.

Recapitulation

1. What is lymphatic system ?
2. What is lymph ?
3. What does lymphatic system consist of ?

Home work

1. Why lymph is also called as extracellular fluid ?
2. What are the functions of lymphatic system ?

LESSON No. 13

Date 27.02.15 | Duration of the period 35 mins.

Pupil Teacher's Name Piyali Dhar | Pupil Teacher's Roll No. 9560155

Class VIII | Average Age of the pupils 15 years

Subject L.Sc. | Topic Human Heart

INSTRUCTIONAL OBJECTIVES :-

After going through lesson, the students will be able to :-

- Define function of human heart.
- Name part of human heart.
- Understand function of heart.
- Explain function of arteries and veins.
- illustrate structure of human heart.
- Discuss the structure of human heart.
- Evaluate human heart.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, pointer etc.

Specific :- Model of human heart.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher

Assume the student must know about Str. & function of human heart.

I.P.I.K. Testing

Pupil teacher activity	Student activity
1. Which system circulates blood around the body.	Blood circulatory system.
2. Which organs pumps the blood in human body.	Heart–
3. What are the main parts of a heart ?	Auricles, vertieles & septa.
4. Can you explain the structure of a heart ?	No response.

Announcement of topic : Students today we shall study the structure & functions of human heart in detail.

Presentation

sub matter	Pupil teacher activity	Student's activity
Structure of human heart–	Structure : The heart is a double pump. It is divided by septa into two halves right & left. Each half consist of two communicating chamber, upper smaller auricle or atrium & lower larger – ventricle. Thus the heart has four chambers called atria and two lower chambers called left & right ventricles.	Students listen carefully
Explanation of heart–		Student note down about chamber of heart.

Student's activities.

There are valves b/w left atrium and left ventricle & b/w right atrium and right ventricle. These valves provide one way passage and prevent return of blood.
The wall of heart are composed of special muscle cells called cardiac muscle fibres.

Function: The most vital function of heart is heart beats which take place all the time throughout one's life. The seq. of events which takes place during the completion of one heart beat called cardiac cycle. It involves repeated rhythmic contraction & relaxation of heart muscles.
- Contraction called systole.
- Relaxation called diastole.

Students listen carefully about function of human heart

Students note down about systole & diastole.

The cardiac cycle involves following.
i) During the time when the muscles of all four chambers of heart are relaxed, the blood returning to the heart under low blood pressure in the veins enters the two arteria. Blood from vanacava pour into right atrium. Thus the deoxy generated blood enters the right atrium.

Explanation of cardiac cycle

Student's activity

ii) As the right and left atria fill with blood pressure in them so that the valves b/w left atrium & left ventricle (bicuspid valves) & b/w right atrium & right ventricle (tricuspid valve) open and the atria contact. Atrial contraction (atrial diastole) faces pumping of de-oxygenated blood from right atrium into the right ventricle through tricuspid value and oxygenated blood from left atrium into left ventricle.

Students listen carefully

iii) Almost immediately the ventricle contract. This is called ventricular systole. During contraction of ventricles the deoxygenated blood from right ventricle flows to the lungs through pulmonary artery or oxygenated blood from left ventricle is distributed to all parts of body.

Students listen coorefully.

Recapitulation

1. What are the main parts of human heart?
2. What is pericardium?
3. Which membrane separates right and left auricles and ventricles?

Home work

1. Explain the function of human heart in detail?

LESSON No. ....14....

Date 02.03.15

Pupil Teacher's Name Piyali Jha

Class IX

Subject L. Sc.

Duration of the period 35 mins

Pupil Teacher's Roll No. 9560155

Average Age of the pupils 15 years

Topic Respiration & its types

TRUCTIONAL OBJECTIVES :- After going through lesson,

e students will be able to :-

Define respiration
Name part of respiratory system.
Explain & summarise respiration.
Compare aerobic and anaerobic respiration.
Explain process of respiration.
Evaluate respiration.

INSTRUCTIONAL AIDS :-

Genesal :- Chalk, Dusters, Chalk-Board, Poister etc.
Specific :- Model of Respiratory System.

PREVIOUS KNOWLEDGE ASSUMED :-

Assume the student must know about Structure & function of respiratory system.

pupil's teacher

P.K. Testing.

Pupil teacher activity	Student activity
1. What is respiration ?	The scientific meaning of respiration is a complex process involving intake of O_2 from atmosphere.
2. What is the by product of respiration ?	CO_2
3. What is end product of respiration ?	ATP (Energy)
4. How many types of respiration there.	No response.

Announcement of topic : Students today we shall study about respiration and its types.

Presentation

Sub matter	Pupil teacher activity	Students activities
Concept of breathing & cellular respiration	It is very difficult to define respiration. Therefore it is been separated & splitted into two separate process — breathing & cellular respiration. Breathing : It is a kind of ventilation in which the organism take O_2 from the environment & release CO_2.	Students note down about breathing & cellular respiration.

	Student's activities
Aerobic Respiration: The oxidative breakdown of respiratory substances with the help of atmospheric O_2 is known as aerobic respiration. During this process, the respiratory substances are completely broken down in CO_2 & H_2O by the process of oxidation.	Students listen carefully.
Q. In eukaryotic organisms where is the respiratory system found? — In cytosol the glucose is broken down to pyruvic acid step by step by glycolysis. In the presence of O_2 this pyruvic acid enters into mitochondria where it is completely broken down.	No response. After taking sometime students give answer mit chondria.

Students activities

Anaerobic Respiration:
Oxidation of respiratory substrates in absence of atmospheric oxygen is termed as anaerobic respiration.

Explanation of Anaerobic respiration

It involves incomplete breakdown of respiratory substrates in which the end product such as ethanole or lactic acid & CO_2 is released.

Students note down equation of anaerobic respiration.

Anaerobic respiration is also occurs inside the muscles during vigorous muscular activities. It usually occurs during the phase when O_2 gets used up faster then it is available for oxidation breath down of respiratory substrates.

Students note down reaction down in muscle during muscular activities.

Recapitulation

1) What does anaerobic respiration takes place in our body ?
2) Describe anaerobic and aerobic respiration ?

Home Work

1) Differentiate b/w aerobic & anaerobic respiration ?
2) Describe aerobic respiration with example of equation ?

LESSON No. 15

Duration of the period 35 minutes

Date 03.03.15

Pupil Teacher's Name Piyali Ojha

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L. Sc.

Topic Chromosome

ities

CTIONAL OBJECTIVES :- After going through the lesson

dents will be able to :-

Define chromosome.

Know about Chromosomes.

Distinguish b/w autosomes and sex chromosomes.

Illustrate sex determination.

Explain function of Chromosomes.

Differentiate various method of sex-determination.

Evaluate function of chromosomes.

INSTRUCTIONAL AIDS :-

General :- Duster, Chalk, Chalk Board, Pointer etc.

Specific :- Chart showing Cell division.

PREVIOUS KNOWLEDGE ASSUMED :- Pupil's teacher assume the student must know str. & func of chromosome.

P.K. Testing

Pupil teacher activity	Student activity
1. What are chromosomes?	Chromosomes are thin thread like structure which transfer hereditary information from one generation to another.
2. How many chromosomes are their in human body?	46 [23 pairs]
3. How many chromosomes are autosomes & how many are sex-chromosomes.	22 pairs are autosomes & 2 sex chromosomes.
4. What is sex determination?	No satisfactory answer.

Announcement of topic: Well students. today we shall be discussing about sex-determination in human.

Presentation

sub matter	Pupil teacher activity	Students activities
Sex determination	In sexual reproduction male & female gametes fuse during fertilization to form zygote. This zygote develop into offspring - Mechanism by which the sex of an individual is determined as it begins its life is called sex-determination.	Students listen care fully & note down definition of sex-determination.

	Student's activities
In diploid organisms having separate sexes a specific pair of chromosomes in each diploid cell determines the sex of an individual. They are called sex-chromosomes. All other chromosomes are termed as autosome. There are 46 chromosomes of there 44 (22 pairs) are autosomes & 2 (1 pair) are sex. chromosomes. The sex chromosomes in human beings & also in fruitfly are of two types: X and Y	Students note down that the man has 46 chromosomes
A male has one X chromosome and one Y chromosomes i.e. XY male produces two different kinds of gametes (sperms) half of the gametes have X-chromosome and other half have Y chromosome. Therefore a male is heterogametic.	Students listen carefully
A female individual contains two similar X chromosomes i.e. XX females therefore produce same type of gametes (ova or egg). So. female is called homogametic.	Students listen carefully
The sex of a child is determined at the time of fertilization when male and female gametes fuse to form zygote.	

	Student's activity
If a sperm (male gamete) carrying X chromosomes fertilizes an egg or ovum (female gamete) carrying X chromosome, then offspring would be a female / girl child. This is because the offspring will have XX chromosome combination.	Students note down that female child having XX chromosome.
If a sperm carrying Y chromosomes fertilizing an egg / ova which has X chromosomes then the offspring will be a male / boy child as it will be having combination of XY chromosomes.	Students note down that the male child is having XY-chromosomes.
This mechanism of sex determination in human beings and also in fertility is called XX - XY mechanism	Students note down the XX-XY mechanism of sex determination

Recapitulation

1) What is the meaning of sex-determination.
2) What are the sex chromosome in males & females.
3) How many chromosomes are found in human being.

Home Work

1) What will be sex of offspring when X chromosomes of male fuses with X chromosome of female.
2) Explain anyone mechanism of sex determination.

LESSON No. 16

Date 04.03.15 | Duration of the period 35 minutes

Pupil Teacher's Name Piyali Ojha | Pupil Teacher's Roll No. 9560155

Class VIII | Average Age of the pupils 15 years

Subject L.Sc. | Topic Evolution

INSTRUCTIONAL OBJECTIVES :-

After going through lesson, Students will be able to :-

- State theories of evolution.
- illustrate different theories of evolution.
- Demonstrate theories of evolution.
- Explain theories of evolution.
- Analyse Darwinism & Lamarkism theory of evolution.
- Evaluate theories of evolution.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, Pointer etc.

Specific :- Chart showing Difference b/w Darwinism & Lamarkism theory of Evolution.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher assume the student must know about different theories of Evolution.

P.K. Testing

Pupil teacher activity	Student activity
1) What is evolution?	Evolution is the sequence of gradual changes which takes place in the primitive organisms over million of year in which new species are produced.
2. What are sources which provides evidence in support of evolution?	Fossils, Homologous organs ~~analog~~ analogous & vestigeal organs.
3. What are theories of evolution?	No response.

Announcement of topic: Students today we are studing about theories of evolution.

Presentation

sub matter	Pupil teacher activity	Student's activities
Theories of evolution	Several theories have been put forward from time to time to explain the process of evolution of the animals & plants. Carl Linnaeus was the first scientist to who tried to explain evolution Scientifically. Lamark's Theory of Evolution: The Baptiste Lamarks explained	Students listen carefully

Student's activities

his theory of evolution in his book "Philosophic Zoologeque". This theory is known as "Theory of inherelance of acquired characters" also known as LAMARCKISM.

Students listen carefully & note down the point of lamark'n theory.

According to his theory

i) The use & disuse of an organ by an organism leads to acquiring of 'change' in the features of that organ.

ii) These changes or variation are called acquired characters & are inherited by their offsprings.

iii) These favourable variations caused due to the use & disuse of certain organs over a considerably long period of time leading to evolution of a new species.

iv) August Weisman rejected lamark'n idea of ~~in~~heritance of acquired characters, he showed that even other the tails of mice continuously for 21 generations a tail less mouse was never born.

Students note down names of scientist.

Darwin's Theory of Evolution:

Charles Robert Darwin gave the theory of evolution in his famous book, 'The origin of species". The theory of evolution proposed by

Student's activities

Darwin is called The theory of natural selection. It is also old as "Darwinism".

i) Within any population there is natural variation. Some individuals have more favourable variations than other.

ii) Even though all species produce a large no. of offsprings. Population remains fairly constant naturally.

iii) This is due to the struggle b/w members of the same species & different species for food, space and met.

iv) The struggle for survival within populations eliminates the unfit individuals.

v) The individuals having favourable variation pass on these variations to their progeny.

vi) These variations when accumulated over a long period of time lead to the origin of species i.e. new.

Students listen carefully & note down the main points of Darwin theory of evolution.

Recapitulation

1) What is evolution?
2) What rejected Lamark's theory of evolution?
3) What is the main part of Darwin's theory of evolution?

Home Work

1) Name the most accepted theory of evolution.
2) State Darwin's theory of evolution.
3) What are the names of Darwin's theory of evolution?

LESSON No. 17

Date 07.03.15

Pupil Teacher's Name Piyali Otta

Class VIII

Subject L. & C.

Duration of the period 35 mins

Pupil Teacher's Roll No. 9560155

Average Age of the pupils 13 years

Topic Chromosome

Knowledge activity

INSTRUCTIONAL OBJECTIVES :- After going through lesson, Student will be able to :-

- Give definition of chromosomes.
- Write about haploid & diploid chromosomes.
- Distinguish b/w various types of chromosomes.
- Illustrate function of chromosomes.
- Construct diagram of chromosomes
- Differentiate b/w haploid & Diploid no. of chromosomes.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, pointer etc.

Specific :- Chart showing different Chromosomes.

PREVIOUS KNOWLEDGE ASSUMED :- Pupil's teacher assume the student must know about haploid & Diploid chromosomes.

P.K. Testing

Pupil teacher activity	
1. How many chromosomes are present in human beings?	23 pairs
2. Define chromosomes.	Chromosomes are thin thread like structure.
3. How many types of chromosomes are their and what are there.	No response.

Announcement of topic : Well students. today we shall study about chromosomes.

Presentation

sub matter	Pupil teacher activity	Student activity
Definition & Structure of Chromosome	Chromosomes are thin thread like structure present in the nucleus of a cell which contain hereditory information of a cell. Chromosomes are made up of DNA & proteins. Their the components of chromosomes. Each chromosome consist of two stands called chromatide which are joined together at a point called centromere.	Students write down definition of Chromosome.

activities

Students activities

Types of chromosomes:
Depending on the position of centromere a chromosome may have either equal arms or unequal arms. So, on the basis of position of centromere those are 4 types of chromosomes:

1) Metacentric 3. Acrocentric
2) Submetacentric 4. Telocentric

Students note down types of chromosome.

1) Metacentric: In which centromere is near to middle point, so that its two arms are almost equal in length is called metacentric chromosomes.

2) Submetacentric: When centromere isn't in middle but is slightly deviated from its middle point mating both arm visibly unequal in which one are is slightly shorter than other is called as ~~submetacentric~~ chromosome.

3. Acrocentric: In which centromere is deviated from its middle point at a good distance & is spotted near but not at the tip of chromosome mating one arm very long & other arm very short is called as acrocentric chromosome.

Student's activities

4. Telocentric : When centromere is at its tip is called telocentric chromosome.

Diploid & Haploid number of chromosome:
- A cell which has the full number of chromosome, with two of each kind is called a diploid cell.
- A cell which has half the no. of chromosomes with one of each kind is called a haploid cell.
- All chromosomes in a cell are old autosomes. Thus autosomes are non-sex chromosomes.
Autosomes are of the same number and kind in both male & female of a species. In order to study the no. shape, size & type of chromosomes of an individual the chromosomes are seen in the cell of that individual during metaphase & they are arranged all to their length and position of centromere. This arrangement of chromosomes for the purpose of studying is known as Karyotype.

Students write down what are haploid & diploid chromosomes.

Students listen carefully

Students note down the definition of Karyotype.

Recapitulation

1) Define chromosomes ?
2) What are types of- chromosomes ?
3) What is Karyotype ?

Home Work

1) Explain metacentric and telocentric chromosomes ?
2) Explain the haploid & diploid number of chromosomes ?
3) Define Karyotype ?

LESSON No. 18

Date 09.03.15 Duration of the period 35 mins

Pupil Teacher's Name Piyali Jha Pupil Teacher's Roll No. 9560155

Class IX Average Age of the pupils 15 years

Subject L.Sc. Topic Sexual Reproduction

INSTRUCTIONAL OBJECTIVES :-

After going through lesson,

Students will be able to :-

- Define sexual reproduction.
- Differentiate b/w sexually & asexual reproduction of animals.
- Illustrate sexual reproduction
- Name the animals that reproduce sexually.
- Examples of sexual & asexual reproduction of animals.
- Evaluate sexual reproduction.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, Pointer etc.

Specific :- Chart.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher assure the student must know about difference between sexual & asexual mode of reproduction in animals.

P.K. Testing

Pupil teacher activity	Student activity
1. What is reproduction ?	The production of new organism from the existing organism of same species is known as reproduction.
2. How many types of reproduction are there ?	Asexual & sexual.
3. What is external & internal fertilization ?	No response.

Announcement of topic : Well students today we shall study about- sexual reproduction.

Presentation

Sub matter	Pupil teacher activity	Student's activities
Sexual reproduction in animals	Male : An animals having male sex cells (sperm) in its body is a male. Female : An animal having sex cell (ova) in its body is a female.	Students listen carefully
Gametes	Gamete : Cell involved in sexual reproduction are gametes. Gametes types : 1) Male (sperm) 2) Female (ovum) Male gamete is called sperm.	Students note down types of gametes.

Student's activities

female gamete is called ovum.
Sperm & ova are extremely small cells which can be seen only with the help of a high power microscope.
—Fusion of gametes give rise to a single cell called zygote.
The cell which is formed by the fusion of male & female gametes is a zygote.

Students note down what is zygote.

Fertilization: It is fusion of male gamete with a female gamete to form a zygote during sexual reproduction.
The fusion of a sperm with an ovum to form zygote is c/d fertilization.
The stage of development b/w the zygote & the newly formed is called Embryo.

Students note down what is fertilization & embryo.

Types of fertilization:
- Internal fertilization.
- External fertilization.

Students note down types of fertilization.

Internal fertilization: Which occurs inside a female body. eg. mammals, birds & reptiles.
External fertilization: Which occurs outside a female's body. eg. Amphibian

Students note down what is internal & external fertilization

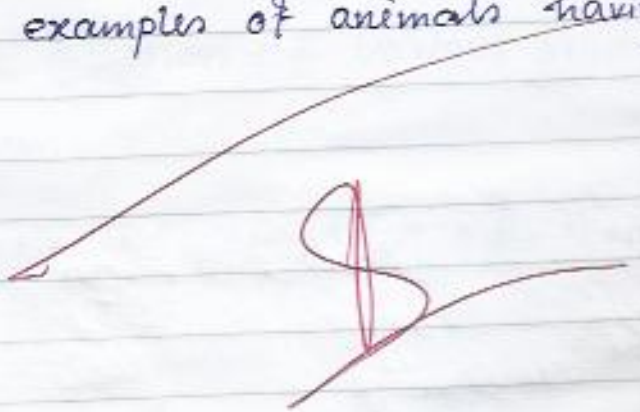
	Student's activities
An organism which possess only one kind of reproductive organs (male or female) in its body is called unisex. organism eg. human. In addition to humans frog, birds, fishes & reptiles etc are all unisexual organism.	Students note down Unisexual organism
An organism which posse as both male & female reproductive organs in its body are called herma phrodites. Thus hermaphrodites are bi-sexual organisms. eg. Animals like earth worm, tapeworms & most of flowering plants are bisexual.	Students note down examples of Unisexual & bisexual organism.

Recapitulation

1) What are gametes & name male & female gametes ?
2) Difference b/w internal & external fertilization ?
3) What are unisexual organisms & hermaphrodites ?

Home work

1) Explain the various terms related in sexual reproduction?
2) Explain unisexual & bisexual organisms ?
3) Give some examples of animals having external fertilization.



LESSON No. ....19....

Date 11/03/15

Duration of the period 35 minutes

Pupil Teacher's Name Piyali Isha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.Sc.

Topic Digestive System

INSTRUCTIONAL OBJECTIVES :-

After going through lesson, the students will be able to :-

- Names of the organs of human digestive system.
- Labels the parts of human digestive system.
- Explain human digestive system and their function.
- Demonstrate the function of various organs of human digestive system.
- Draw well labelled diagram of human digestive system.
- Evaluate organ of human digestive system.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, ~~Blackb~~ Chalk Board, Pointer etc.

Specific :- Chart.

PREVIOUS KNOWLEDAE ASSUMED :-

pupil's teacher assume the student must know about structure & function of Digestive system.

P.K. Testing

Pupil teacher activity	Student activity
1. What is digestion?	Process in which the food containing large insoluble molecules is broken down into small molecules is called digestion.
2. Where digestion of food begins.	In mouth.
3. What are various organs of human digestive system in sequence.	No response.

Announcement of topic : Well students today we shall study about human digestive system.

Presentation

sub matter	Pupil teacher activity	Student activities
organs of human digestive system	The human digestive system consist of alimentary canal & its associated glands. The various organs of human digestive system in sequence are : Mouth, oesophagous, stomach, duodenum, illium, colon & rectum. The glands which are associated with the human digestive system are	Students note down about digestive system & organs which are used in digestion of food.

Student's activities

Steps of nutrition in human beings:

① Ingestion: The human beings have a special organs for ingestion of food called as mouth.

② Digestion: In human digestion beings in food teeth help in physical digestion & tongue helps in mixing of saliva with food. Then food passes onto oesophagus & further to stomach. The glands present in the walls of stomach produce gastric juice which contains 3 substances:-

Hcl. pepsin (enzyme) & Mucous.

Enzyme pepsin begins digestion of proteins present in food to form smaller molecules called peptones.

Then food goes to intestine. There pancreas secrete pancreatic juice which contains digestive enzymes.

Trypsin & pancreatic amylase.

[pancreas also secrete hormones insulin and glucagon]

Now partially digested food passes onto illeum. The wall of ileum secrete intestinal juice succus intericus which complete digestion of carbohydrates into glucose. proteins into amino acid & fat into fatty acid and glycerol.

Students note down enzymes used in digestion of food.

Students listen carefully.

Recapitulation

1. What the parts (organ) of human digestive system?
2. What are the steps of nutrition?
3. What are the constituted of gastric juice?
4. What is egestion?

Home Work

1. Draw a well defined diagram of human digestive system?
2. Explain process of Assimilation?
3. What is the function of Hcl in digestion?

DISCUSSION LESSON

LESSON No. 01

Date 02.03.15 Duration of the period 35 mins

Pupil Teacher's Name Piyali Jha Pupil Teacher's Roll No. 9560155

Class IX Average Age of the pupils 15 years

Subject Life Sc. Topic Plant movements

INSTRUCTIONAL OBJECTIVES :-

After going through lesson,

Students will be able to :-

- Recognize plant movement.
- Recall plant movements.
- See relationship between plant and animal movements.
- Site examples of plant movements.
- Classify plant movements
- Descriminate b/w plant movement.
- Give their view about plant movement.
- Evaluate plant movements.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, Pointer etc.

Specific :- Chart showing various plant movement.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher assume the student must know about plant movement.

I.P.K. Testing

Pupil teacher activity	Student activity
1. What is stimulus?	The changes in the environment to which the organism react and respond.
2. What are phytohormones?	plant hormones are called as phytohormones.
3. What is co-ordination?	No response.

Announcement of topic: Well students study today we shall study about various plant movements.

Presentation

Sub matter	Pupil teacher activity	Student activity
Co-ordination in plants	The working together of various organs (parts) of the body of an organism or plant in proper manner to produce proper reaction is called as co-ordination. Control & Co-ordination in plants is not as elaborate as in animals. Plants do not have nervous system muscles and sense organ like animals. Still they can respond & react to various stimuli such as light-	Students shall listen carefully about co-ordination in plants.

Is activities

	Student's activities
using hormones. Plant Movements: Plant movements are brought about by some definite external & internal stimuli by using phytohormones. According to the nature of stimulus the movements may be spontaneous (autonomic) or induced (Paratonic).	Students note down carefully about plant movement
Classification of Induced plant movement: 1) Nastic movements. 2) Tropic movements.	Students note down about classification of induced plant movements.
1. Nastic movements: These are non directional induced variation movements that occur due to change in turgor.	
ii) Seismonastic movement: Such movements occur due to touch. These are best seen in touch-me not plant or chhuimui plant. (Mimosa pudica)	Students listen carefully.
What happens when we touch the leaves of chhui-mui.	

	Student's activities
ii) Nyctinastic movements : The movements involving the diurnal variation in the position of flowers are called nyctinastic movements. These involve photonastic & thermonastic movements. These involve photonastic & thermonastic movements.	Students note down about nyctinastic movements.
a. Photonastic movement : If the diurnal variation in the position of plant parts are caused by light stimulus such non-directional movements are called photonastic movements.	Students listen carefully.
b. Thermonastic movements : If the diurnal variation in the position of plants parts are called caused by the change in temparature of the surroundings.	Students listen carefully.
2. Tropic movements : Directional movements of specific part of a plant in response to external stimuli are	Students note down about tropic movement & its type.

	Student's activities
are called tropic movements. If the movements of a plant part takes place towards the stimulus is called as +ve tropism. If the movements of a plant part takes place away from the stimulus is called -ve tropism.	
i) Phototropism: The response of plant to light is called phototropism. If the plant part moves towards light it is +ve phototropism & if the plant part moves away from light then it is called -ve phototropism.	Students listen carefully
ii) Geotropism: The response of a plant to gravity is called geotropism. If plant part moves in direction of gravity it is +ve geotropism & if plant part moves against the direction of gravity it is called -ve geotropism.	Students listen carefully
iii) Chemotropism: The movements of a plant part in response to chemical stimulus is called chemotropism.	Students listen carefully.
iv) Hydrotropism: The movement of a plant in response to water is hydro tropism eg. Root show +ve hydrotropism where as shoot shows -ve hydrotropism.	Students listen carefully.

Recapitulation

1. What is nastic movement ?
2. What is tropism ? How many types of tropic movement ?
3. What is seismonasty ?

Home work

1. What is meant by tropism ?
2. What is the stimulus in :
   i) Phototropism
   ii) Geotropism
   iii) Chemotropism
3. What does a stem or shoot do in response to light ?


OBSERVATION
LESSONS

Observation Lesson No. 01

Date 13.02.15 Duration of the period 35 minutes

Pupil Teacher's Name Arunima Roy Pupil Teacher's Roll No. 9560117

Class VIII Average Age of the pupils

Subject L.Sc. Topic Digestive System

1. Previous knowledge testing was satisfactory.
2. Black-board writing was clear.
3. Voice was clear and effective.
4. Explanation was proper.
5. Student were attentive and involved.
6. Home work was given.

P. Ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 02

Date Prithwa B 14.02.15 Duration of the period 35 minutes

Pupil Teacher's Name Prithwa Bera Pupil Teacher's Roll No. 9560157

Class VIII Average Age of the pupils

Subject L.Sc. Topic Various parts of flowers.

1. The teacher maintained discipline in the cells.
2. Previous knowledge testing was satisfactory.
3. Relevant examples were given.
4. Voice was clear and effective.
5. Black-board writing was very good.
6. Homework was given to the students.

P. Ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 03

Date 15.02.15 Duration of the period 35 mins

Pupil Teacher's Name Prithwa Bera Pupil Teacher's Roll No. 95 60157

Class IX Average Age of the pupils

Subject L.Sc. Topic Plant movement

1. The teacher maintained discipline in the class.
2. Students were involved in the lesson.
3. The teacher was confident.
4. Model was used as teaching aid.
5. Homework was given to the students.

P. Ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 04

Date 16.02.15 Duration of the period 35 mins

Pupil Teacher's Name Arunima Roy Pupil Teacher's Roll No. 9560117

Class VIII Average Age of the pupils

Subject L.Sc. Topic Population control

1. Previous knowledge testing was simple.
2. Blackboard writing was understandable.
3. Voice was clear, loud and effective.
4. Proper explanation was given.
5. Relevant examples were cited.
6. Home work was given to the student.

P. Ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 05

Date 17.02.15 Duration of the period 35 mins

Pupil Teacher's Name Moni Chuan Pupil Teacher's Roll No. 956052

Class VIII Average Age of the pupils

Subject L.Sc. Topic Digestive System

1. Pupil's teacher was confident.
2. Voice was clear and effective.
3. Students were involved in lesson.
4. Model was used as teaching aid.
5. Proper explanation was given.
6. Board writing was clear.
7. Homework was given.

P. ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 06

Date 16.02.15 Duration of the period 35 mins

Pupil Teacher's Name Prithwa Bera Pupil Teacher's Roll No. 956057

Class VI Average Age of the pupils

Subject L.Sc. Topic Human Heart

1. The pupil teacher maintained discipline in the class.
2. The black-board writing was understandable and visible.
3. Pupil teacher voice was confident and loud.
4. Home work was given to the student.

P. ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 07

Date 14.02.15 Duration of the period 35 mins.

Pupil Teacher's Name Arunima Roy Pupil Teacher's Roll No. 9560117

Class IX Average Age of the pupils

Subject L.Sc. Topic Photosynthesis

1. Previous knowledge testing was interesting.
2. Teacher maintained disciplene in the class.
3. Voice was clear and loud.
4. Teacher maintained pupil's interest.
5. Teacher was confident and interactive.
6. Home work was given to students.

P. Ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 08

Date 18.02.15 Duration of the period 35 mins

Pupil Teacher's Name Prithwa Bera Pupil Teacher's Roll No. 9560157

Class IX Average Age of the pupils

Subject L.Sc. Topic Living organisms

1. Teacher was confident and clear voice.
2. Teacher maintained discipline in the class.
3. Proper explanation's were given.
4. Board writing was visible clearly.
5. Homework was given to the students.

P. Ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 09

Date 17.02.15 Duration of the period 35 mins

Pupil Teacher's Name Arunima Roy Pupil Teacher's Roll No. 956017

Class IX Average Age of the pupils

Subject L.S.C. Topic Adolescence

1. Students were involved in the lesson.
2. Proper explanation was given.
3. Proper teaching aids were used.
4. Relevant- examples were cited.
5. Voice was clear and loud.
6. Homework was given to the students.

P. Ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 10

Date 17.02.15 Duration of the period 35 mins

Pupil Teacher's Name Prithwa Bera Pupil Teacher's Roll No. 956015 7

Class VIII Average Age of the pupils

Subject L.S.C. Topic Food chain

1. Pupil teacher maintained discipline in the class.
2. Previous knowledge testing was appropriate.
3. Relevant- examples were cited.
4. Teacher was loud, clear and confident.
5. Teaching aids were used.
6. Home work was given to students.

P. Ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 11

Date 14.02.15 Duration of the period 35 mins

Pupil Teacher's Name Anwisha Roy Pupil Teacher's Roll No. 956017

Class IX Average Age of the pupils

Subject L.Sc. Topic Plant movement

1. Board writing was clearly visible.
2. Model were used for explanation.
3. Class interacted well with teacher.
4. Pupil's teacher was confident.
5. Teacher maintained discipline in the class.
6. Home work was given to the students.

P. Ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 12

Date 13.02.15 Duration of the period 35 mins

Pupil Teacher's Name Prithwa Bera Pupil Teacher's Roll No. 956017

Class IX Average Age of the pupils

Subject L.Sc. Topic Chromasome

1. Previous knowledge testing was interesting.
2. Board writing was satisfactory.
3. Teacher was confident and clear.
4. Concept clarification was good.
5. Relevant examples were cited.
6. Homework was given to the students.

P. Ojha

Sign. of Pupil Teacher

Sign. of Supervisor

SCHOOL REPORT

e environment of CSM High School, Rurkee is school is very good. It is good luck to the chance of teaching of such as school. The teacher of the school is ery helpful and well behaved. There are classrooms in that school. The school is nsisting of 500 students. It took class standard and the students of the lass in brilliant. They are very attentive d serious to their study. There response the lesson very noteble. There Knowledge a library, a play ground a room with mputers for advance technology fascilating students. The headmaster of the chool is too much good. He also helped in various way to get adjusted with e school and Students.

So, it is good experience for to get the chance of teaching at e school.