CHOITHRAM SCHOOL NORTH CAMPUS

ANNUAL PEDAGOGICAL PLAN   (GRADE XII   SUBJECT- BIOLOGY   TERM-I)

STEP-I: IDENTIFYING THE PROBLEMS

CHAPTERS	WHAT ARE THE PROBLEMS	COMPLIATION OF PROBLEMS	CATEGORISATION OF PROBLEMS
Chapter-2: Sexual Reproduction in Flowering Plants **Chapter-3: Human Reproduction** **Chapter-4: Reproductive Health**	**Students find difficulties -** 1. to **calculate** microsporangia, MMC, pollen grains, ovules etc from the given data. 2. **To lable** the cells in somniferous tubules on the basis of type of cell division and ploidy. 3. to **anlayse** the graph and correlate the uterine events according to hormonal levels. 4. to solve assertion and reasoning questions related to topics	Knowledge Understanding Application Analysis	**SUBJECTIVE PROBLEMS :** Find difficulty- **1. -to lable** the diagrams.**(Knowledge/understanding)** 2. -to **solve/ calculate** numerical problems. **(Application/Analysis/create)** 3.-to **analyse**given graph. **(Analysis).)** **4.**-in solving the Assertion - Reasoning questions. **(Application/Analysis)** **BEHAVIORAL PROBLEMS** 1. Lack of practice, interest, 2. Lack of Concentration 3. Lack of reading and writing habit 4. Absenteeism 5. Mugging up content **6.** Casual attitude

	1. Sometimes students lose concentration in the class. 2. They do not do practice at home. 3. Sometimes they do not show interest in the topic. 4. They don't have reading and writing habit. 5. They remain absent		
Chapter-5: Principles of Inheritance and Variation **Chapter-6: Molecular Basis of Inheritance** **Chapter-7: Evolution**	**Students find difficulties to-** 1. **Explain** the pedigree charts. 2. **Study and Analyse** the pedigree charts. 3. **write** the possible genotypes in pedigree charts 4. **solve** the numerical problems related to gene map and no. of genotypes. 5. **draw the conclusion** on the basis of given pedigree problem. 6. **justify** the recessive and dominant raits , autosomal and sex linked inheritance 7. **Name/list** the disorders of	Knowledge Understanding Application Analysis **Evaluate** **Synthesis**	**SUBJECTIVE PROBLEMS :** **Students find difficulty to-** 1.-**explain** concept or process learnt **(Knowledge/understanding)** 2.-**name/list the disorders (Knowledge)** -**write possible genotype (Application)** 3.-**Solve/calculate** the numerical problems**(Application/Analysis/create)** 4.-**draw the conclusion (Evaluate)** 5.-**justify given situation(Evaluate)** 6.-**Construct** the product on the basis of given information**.** **(Evaluate and create)** 7.-**Identify**the features **(Knowledge)** **BEHAVIORAL PROBLEMS**

	given karyotype of trisomy and monosomy or vice versa. **8. describe/explain** the process of transcription. **9. Describe/ explain** the process of translation 10. -**calculate** the % of ATCG according to Chargaff's rule **11. Construct**a complementary strandon the basis of given hypothetical template. **12. Identify** with reason the salient features of genetic code. **13. Explain**DNA fingerprinting **Name** the scientists and their experiments **14. Explain** "Hardy-Weinberg expression" **15. Solve**Numerical based on "Hardy-Weinberg expression" about gene frequency **16. Identify** the pairs of homologous and analogous organs. **17. Justify** pairs of homologous and analogous organs in plants. **18. Name** the human ancestor in chronological order with general feature		1. Lack of practice, interest, 2. Lack of Concentration 3. Lack of reading and writing habit 4. Absenteeism 5. Mugging up content 6. Casual attitude

	LP-1 1. Sometimes students lose concentration in the class. 2. They do not do practice at home. 3. Sometimes they do not show interest in the topic. 4. They don't have reading and writing habit. 5. They remain absent		
Chapter-8: Human Health and Diseases **Chapter-10: Microbes in Human Welfare**	Studentsfind difficulty to write, **Name** the causative organisms of diseases **State** the functions of different immune cells **Expand** the well known abbreviations **Name** and type of barriers of innate immunity **Name** the source and category of drugs Name of microbes, their	Knowledge Understanding Application Synthesis	**SUBJECTIVE PROBLEMS :** **They find difficulty to-** 1.-**Name**the causative organisms / type of barriers of innate immunity/ source and category of drugs./microbes, their products and use.(**Knowledgeand Understanding**) 2. -to **expand** given abbreviations. (**Knowledgeand Understanding**) 3. **Complete** the given table (**Application**) 4. **Rearrange** the steps (**create**) **BEHAVIORAL PROBLEMS**

<table>
<tr><td></td><td>products and use.
Complete the given table
Rearrange the steps of sewage treatment.

1. Sometimes students lose concentration in the class.
2. They do not do practice at home.
3. Sometimes they do not show interest in the topic.
4. They don't have reading and writing habit.
5. They remain absent</td><td></td><td>1. Lack of practice, interest,
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ANNUAL PEDAGOGICAL PLAN   (GRADE XII   SUBJECT- BIOLOGY   TERM-I)

STEP-2 : DESIGNING KPI

KPI NAME	KPI DEFINITION	WHERE ARE WE NOW? (scale & description)	KPI GOAL	KPI LIMIT	WHAT WE NEED TO DO?	HOW WILL IT BE ACHIEVED	KPI MEASUREMENT	REVIEW	KPI REPORTING	

1. Knowl wdge Skill in class XII students	To develop the ability to recall, retain and recognize the learned information **KPI-01**	50 % of the students are able to- **lable** diagrams of various types. -**explain** concept or process learnt **LP-1** **Name/list** **-**the disorders of given karyotype of trisomy and monosomy or vice versa. -the scientists and their experiments **-**the causative organisms of diseases	60%	±2	We will make students - 1. To understand that how to identify and lable the given diagrams. 2. How to explain learnt concept or process. 3. To understand the trisomy and monosomy disorders well so they would be able identify the disorder, name them and will be able to write their karyotype. 4. To learn the name of causative organisms of diseases. 5. To understand the features of Genetic code. 6. To understand the homologous and analogous	-Lecture methods - Explanatio n -Content reading at home -ppt and Digital Content -Online resources - Worksheet s including knowledge based questions -board diagrams Practice sheet about	**Class Test** after every chapter Containg- True/false MCQs Fill in the blanks Lable Match column etc Assignments- N C E R T textual questions and exercises -Oral questioning -One minute questions	after chapter/LP	at the end of term

		Identify -the features of Genetic code. -the pairs of homologous and analogous organs. **Expand** -the well known abbreviations			7. To learn abbreviations and their expansions .	various typology of diagrams. Memory activities -Motivation and continuous follow up will be taken from the students regarding practice of the concepts.			
2.understanding Skill in class XII students	To enhance their skill of understanding so they will be able to	40 % of the students are able to solve the application based questions. **Describe/ explain**	50%	±3	We will make students - 1. Understand that how to **explain** -the pedigree	Lecture methods Explanation Charts	Class test after every chapter Assignments-N C E R T textual questions and exercises	after LP	at the end of term

	understand, interpret and summarizet he concepts learned in the knowledge phase in their own words.	-the pedigree charts. **LP-1**			charts.	Graph	-Oral questioning		
					2. Understand and learn the process of transcription. And translation.	Discussion			
						Reading	Group discussion		
		-process of transcription. And translation.				Presentatio n	concept maps		
		-DNA fingerprinting			3. Understand and learn methods of DNA fingerprinting	Lab practicals	case studies questions		
						Demonstra tion (DNA fingerprint ing)			
		-"Hardy-Weinberg expression"			4. Understand"H ardy-Weinberg expression" and how to apply to solve the problems.				
	KPI-02	**State**				Case studies			
		- the functions of different immune cells			5. Understandand learn thethe functions of different immune cells	Group discussion			
						Mind map			
						Concept map			
						Worksheet s			

					.	including understanding based questions			
3.**Application** skill in class XII students	To Enhancing their application skill to apply facts, ideas and concepts in to another context to answer the application based questions **KPI-03**	40 % of the students were able to- to **solve/ calculate** numerical problems **LP-1** **Solve** assertion and reasoning questions related to topics **LP-1** **write** the possible genotypes in pedigree charts **LP-1**	50%	±3	We will make students - 1. To understand and learn that how to **solve/ calculate** numerical problems. 2. To understand and learn that how to **solve** assertion and reasoning questions related to topics 3. **To** understand and **practive to write the** genotypes in pedigree charts 4. **To understand and practice the** questionsbased on	Lecture methods Explanatio n Charts Reading Presentatio n Lab experiment Demonstra tion Case studies Group discussion Mind map	. Class test after every chapter Assignments- N C E R T textual questions and exercises -Oral questioning	after LP	at the end of term

		Complete the given table based questions			**to Complete** the given table	Concept map Problem solving Worksheets including application based questions			
4. Analysis skill in class XII students	To enhance their skill of analysis where students are finally able to break down the concepts into individual parts, think critically to draw a connection between the broken parts, analyze, draw	50% students are able to -**solve/ calculate** numerical problems Solve assertion and reasoning questions related to topics -**anlayse** the graph and	60%	±2	. We will make students - 1. To understand and learn that how to **solve/ calculate** numerical problems. 2. To understand and learn that how to **solve** assertion and reasoning questions related to	Lecture methods Compare and contrass with Chart, graph Case studies Group discussion	Class test after every chapter Assignments-N C E R T textual questions and exercises -Oral questioning	after LP	at the end of term

					topics	Mind map			
inferences and make attributions.	correlate the uterine events according to hormonal levels.				3. **To** understand and learn how to analyse graph **and answer the questions**	Concept map questionnaire Worksheets including analysis based questions			
5. Evaluate skill in class XII students	To enhance their skill of **evaluate** to make judgments	40% students are able to **draw the conclusion** on the basis of given pedigree problem.	50%	±2	We will make students - To understand that how to solve the pedigree analysis problems step wise step on the basis of certain criteria and reach to a conclusion	Lecture methods Compare and contras with Chart, graph Case	Class test after every chapter Assignments- N C E R T textual questions and exercises -Oral questioning	after LP	at the end of term

		about the concepts, defend or criticize them based on certain criteria and standards.	**LP-1** **justify** the recessive and dominant raits , autosomal and sex linked inheritance in the given situation **LP-1**				studies discussion Mind map Concept map questionnaire Debate			
	6.Create/ synthesis skill in class XII students	To enhance their skill of create/ synthesis by Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern	50% students are able to **Construct** a complementary strand on the basis of given hypothetical template. **arrange the steps** of sewage	60%	±3	We will motivate the students 1. To understand, learn and practice how to make complementary strand on the basis of given hypothetical template. 2. To understand	Lecture methods - Explanation Brain storm -ppt and Digital Content	Class test after every chapter Assignments- N C E R T textual questions and exercises -Oral questioning		

| | | or structure through generating, planning, or producing. | treatment. | | | andlearn how to **arrange the steps** of sewage treatment. | - Worksheets including create based questions /numerical questions

Practice sheet

Motivation and continuous follow up will be taken from the students regarding practice of the concepts. | | | |

Lesson Plan 1
Class – XII
Subject: BIOLOGY

Topic : Pedigree Analysis

KPI DEFINITION ADDRESSED TO THE LESSON PLAN

KPI 1- Knowlwdge skill -To develop the ability to recall the learned information.

KPI 3- Application skill- To Enhancing application skill to apply facts, ideas and concepts in to another context to answer the application based questions

KPI 4-Analysis skill- To enhance their skill of analysis where students are finally able to break down the concepts into individual parts, think critically to draw a connection between the broken parts, analyze, draw inferences and make at**tributio**ns.

KPI 5- Evaluate- to make judgments about the concepts, defend or criticize them based on certain criteria and standards.

KPI 6- synthesis-Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.

PLACEMENT OF OBJECTIVES, INSTRUCTIONAL ACTIVITIES AND ASSESSMENT

TOPIC/S- 1: Pedigree Analysis

START DATE-

	KNOWLEDGE	UNDERSTANDING	APPLICATION	ANALYSIS	SYNTYHSIS	EVALUATION
OBJECTIVES	SP 1	-	SP 2 SP 3 SP 4	SP 3 SP 4	-	-
ACTIVITIES	ACT 2 ACT 4 ACT 6 ACT 9 ACT 11	-	ACT 2 ACT 3 ACT 7 ACT 8 ACT 9	ACT 2 ACT 3 ACT 7 ACT 8 ACT 9	-	-
ASSESSMENT	A1, A 2, A 3	A1, A 2, A 3	A1, A 2, A 3	A1, A 2, A 3	-	-

Brief Description of the lesson: A pedigree shows relationships between family members and indicates which individuals have certain genetic pathogenic variants, traits, and diseases within a family as well as vital status. A pedigree can be used to determine disease inheritance patterns within a family.

UN Sustainable Goals to be achieved (if any): Good health and wellbeing.

Objectives:
I - Specific Objectives
To enable the students to-

SP 1 **Explain** the pedigree charts. **KPI 1**
SP 2 **Study and Analyse** the pedigree charts. **KPI 4**

SP 3 -**write** the possible genotypes in pedigree charts **KPI 3**
SP 4 -**solve** the numerical problems related to gene map and no. of genotypes. **KPI 3**
SP 5 **draw the conclusion** on the basis of given pedigree problem. **KPI 5**
SP 6 -**justify** the recessive and dominant raits , autosomal and sex linked inheritance. **KPI 5**

II - Behavioral Objectives
To enable the students to-
B 1 practice the concept learnt in the class at home
B 2 develop interest in the topic
B 3 develop reading and writing habit
B 4 be regular in the school

Process / Activities
Activity (to introduce the lesson)

ACT 1 *Brain Storming*-The class would start with a discussion on what the students have
already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying.
ACT 2 Explanation method
ACT 3 lecture method
ACT 4 Worksheets including various typology of questions
ACT 5 Two ways interaction
ACT 6 Reading topic at Home
ACT 7-concept maps
ACT 8-case studies
ACT 9- Oral Questioning
ACT 10- Debate
ACT 11- Memory activity
ACT 12-Charts Reading
ACT 13-Presentation
ACT 14-Lab experiment
ACT 15- Demonstration

Digital Content to be used:

www.learncbse.in/cbse-notes/
https://mycbseguide.com
www.examfear.com

Expected Learning Outcomes
Students will be able to:
1. *Students will know and understand about pedigree.*
2. *Students would be able to* **Define** the learnt concept related to *pedigree*
3. **They** *would be able to* **Solve Assertion and reasoning Questions.**

4. **They** *would be able to* **Analyze** graph and charts of learnt concepts.
5. **They** *would be able* to **explain and discuss pedigree and associated genetic disorders.**

Assessment Activity:

A 1 Class Test Question paper Containg- True /false MCQs Fill in the blanks Lable Match column etc
A 2 Assignments- N C E R T textual questions and exercises
A 3 Oral questioning, One minute questions

<u>**Review of the Lesson Plan:**</u> To be done when the lesson gets over
Problems faced –
Success-
Failure-
Real Learning Outcomes-
Students Response / Participation-
Teachers Learning to be added.