Delhi Public School
Srinagar

LESSON PLAN BIOLOGY

CLASS - **XII**th OCTOBER, 2015

CLASSES REQUIRED	06 LECTURES (Class Duration of 1 hour)
TOPIC	CELL CYCLE AND CELL DIVISION.
CONCEPT & SKILLS	1) To explore how growth in organism begins at cellular level. 2) Importance of cell division or cell reproduction. 3) Why do cells divide. 4) Describe the structure of chromosome. 5) Describe how homologous chromosomes are alike and how they are different. 6) Name the stages of cell cycle and explain what happens at each stage. 7) Summarize the major events that occur during each phase of mitosis. 8) Explain how cytokinasis differ in plants and animal cells. 9) Significance of mitosis 10) Contrast haploid and diploid cells 11) Summarize the processes of meiosis 12) Describe how chromosomes assort during meiosis contributes to genetic variations. 13) Explain how crossing over contributes to genetic variations. 13) Contrast and compare mitosis and meiosis : ***Skills***: *Scientific Aptitude)* *Inferring)* *Predicting)* *Interpreting data)* *Logical- Mathematical*
LEARNING OUTCOMES	**Learning Outcomes of this lesson include the following:** 1) Will understand changes in maturing organisms, such as Human zygote to embryo—foetus---baby---adult, or kitten to cat. 2) Will understand cells arise from pre existing cells, new individuals, growth, replacement ,healing, reproduction, and basic similarities. 3) Will understand factors responsible for inducing cell division, mimimun growth, Surface volume ratio, Nucleocytoplasmic ratio. 4) Will understand chromatid, sister chromatids, centromer, metacentric, sub metacentic, acrocentric telocentric chromosomes. 5) Will understand that homologous chromosomes in pairs carries

	the same sequence of genes controlling the same inherited character, autosomes, and allosomes. 6) Will understand G1 phase, S phase, G2 phase Mphase and G0 phase. 7) Karyokinasis, Prophase,Metaphase,Anaphase Telophase ,cytokinasis, and equational division, 8) Will understand centripetal cleavage, Cleavage cytokinasis and cell plate cytokinasis. 9) Will understand maintainance of genetic constitution, somatic variation, regeneration, Differentiation, Asexual Reproduction. 10) Will understand somatic and gametic chromosomal constitution of cells 11) Occurance,steps—Meiosis—1----Karyokinasis, prophase1 (Leptotene, Zygotene, Pachytene, Diplotene Diakinesis) Metaphase1, Anaphase1 Telophase1 Cytokinasis1, interekinasis, Meiosis2 prophase2 Metaphase2 Anaphase2 Telophase2 Reductional division. 12) Sexual reproduction, independent assortment of chromosomes during sexual reproduction. 13) Recombination and new combinations of traits. 14) General differences during Prophase, Metaphase,Anaphase,Telophase and cytokinasis.
INSTRUCTIONAL TOOLS & REFERENCES	I) Text book for the topics. II) Permanent slides of mitosis and meiosis III) Online links for practise and concept reinforcement. IV) Board and laptops V) References from various books.
PEDAGOGY	Activating previous knowledge. Reflective discussion Random questioning HOTS Text-book questions Sample board papers.
ACTIVITY / ASSIGNMENT / RESEARCH	i) Class assignments based on questions from the text book. ii) In-text books questions extracted from each topic
ASSESSMENT	Checking concepts Thinking critically Applying concepts
SYLLABUS FOR	**Cell Division: cell cycle, mitosis, meiosis and their significance.**

FORMATIVE & SUMMATIVE ASSESSMENT	