DISCIPLINE: Biotechnology	**SEMESTER:3rd Sem**	**NAME OF THE TEACHING FACULTY: sunil Biswajit maharana**
SUBJECT: Th4. CELL AND MOLECULAR BIOLOGY	**NO. OF DAYS/ PER WEEK CLASS ALLOTTED:04**	**SEMESTER FROM DATE: 01-10-2021 TO DATE NO. OF WEEKS:16**
WEEK	**CLASS DAY**	**THEORY/ PRACTICAL TOPICS**
1st	**1st**	**1.1. What is cell.**
	2nd	**1.1.What is Prokaryotic cells?**
	3rd	**1.1. What is Eukaryotic cells?**
	4th	**1.1.Difference between Prokaryotic and Eukaryotic cells**
2nd	**1st**	**1.2. Cell structure .**
	2nd	**1.2. Cell functions.**
	3rd	**1.3. What is Nucleus?**
	4th	**1.3. What is Nucleosome?**
3rd	**1st**	**1.3. What is Chromosome?**
	2nd	**1.3.Chromosome types?**
	3rd	**2. 1 What is Cell cycle?**
	4th	**2. 1 phases of cell cycle**
4th	**1st**	**2. 1 Processes of Cell cycle?**
	2nd	**2. 1 Processes of Cell cycle?**
	3rd	**2. 2 Phases of Mitosis .**
	4th	**2. 2 Phases of Meiosis.**
5th	**A**	**2. 2 Difference between Mitosis and Meiosis.**
	2nd	**2. 3 What is Cytoskeleton?**
	3rd	**2. 3 What is Actin ?**
	4th	**2. 3 What is Myosin?**

6st	1st	**3 . 1 What is DNA ?**
	2nd	**3. 1 Types of DNA Replication.**
	3rd	**3. 1 Enzymes of DNA Replication.**
	4th	**3. 1 Process of DNA Replication.**
7th	1st	**3. 2 What is DNA Recombination?**
	2nd	**3. 2 Types of Recombination.**
	3rd	**3. 2 Process of Recombination**
	4th	**3. 2 Process of Recombination.**
8th	1st	**3. 3 What is DNA Damage?**
	2nd	**3. 3 Cause and repair of DNA Damage.**
	3rd	**4.1 Different Components of transcription machinery in prokaryotes.**
	4th	**4.1 Different Components of transcription machinery in eukaryotes.**
9th	1st	**4.2 Different Transcription factors**
	2nd	**4.2 Different Transcription factors**
	3rd	**4.3 What is Transcription?**
	4th	**4.3 Enzymes involved in Transcription.**
10th	1st	**4.3 Transcription process (Initiation, Elongation, and Termination).**
	2nd	**4.3 Transcription process (Initiation, Elongation, and Termination).**
	3rd	**4.4 What is m-RNA processing?**
	4th	**4.4 Different steps involved in m-RNA processing**
11st	1st	**4.5 Pre transcriptional processing?**

	2nd	**4.5 Post transcriptional processing?**
	3rd	**4.6 Capping and poly (A) tailing**
	4th	**4.7 m-RNA stability-RNA editing**
12th	1st	**4.7 Process of m-RNA stability-RNA editing**
	2nd	**5.1. What is translation)**
	3rd	**5.1. Genetic code &the principle of translation.**
	4th	**5.2. Main Translation machinery (t-RNA, Aminoacyl synthetase, Ribosome),**
13th	1st	**5.2. Main Translation machinery (t-RNA, Aminoacyl synthetase, Ribosome),**
	2nd	**5.3. Translation process (Initiation)Process**
	3rd	**5.3. Translation process (Elongation) Process**
	4th	**5.3. Translation process (Termination) Process**
14th	1st	**5.4. Post translational process.**
	2nd	**5.5. Regulation of Gene Expression: Constitutive and Induced gene expression**
	3rd	**5.5. Regulation of Gene Expression: Constitutive and Induced gene expression**
	4th	**5.5. Regulation of Gene Expression: Constitutive and Induced gene expression**
15th	1st	**5.6. Regulation of gene expression in prokaryotes.**
	2nd	**5.6. Regulation of gene expression in eukaryotes.**
	3rd	**5.7. Operon model (Lac-operon)**
	4th	**5.7. Operon model (Trp- operon)**